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AMSTRAD ACTION

THE MOULD-BREAKING MAGAZINE FROM FUTURE PUBLISHING

BRITAIN'S LEADING MAGAZINE FOR THE AMSTRAD CPC 464, 664 AND 6128

No. 29 FEBRUARY 1988 £1.25

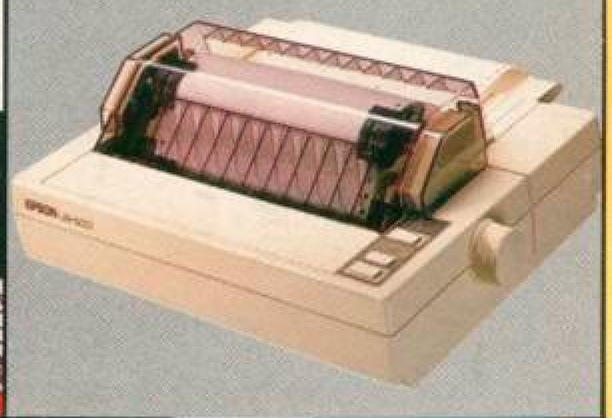
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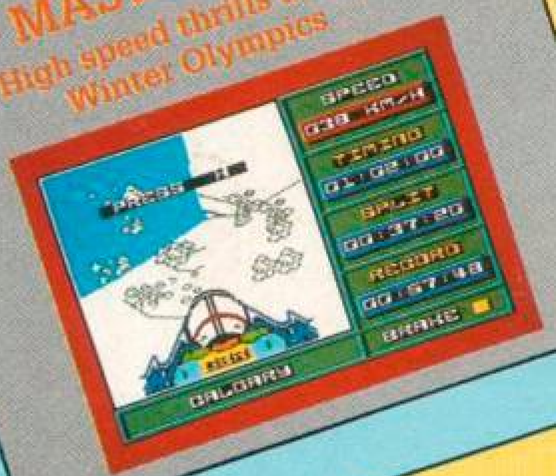
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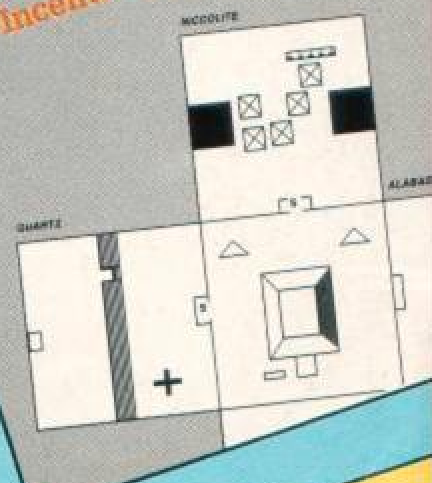
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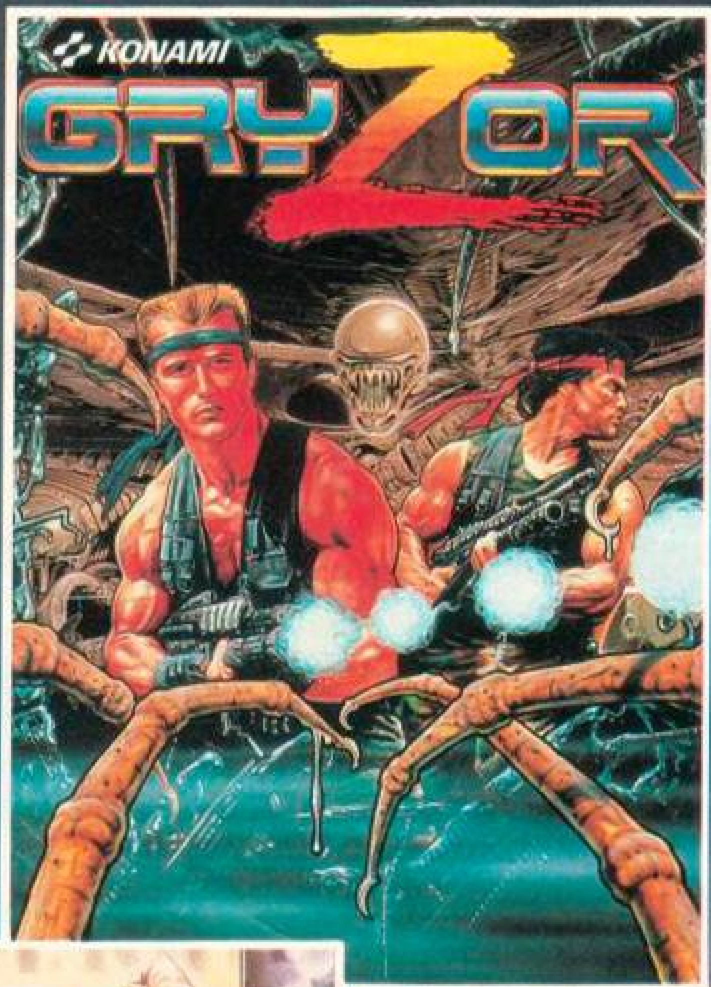
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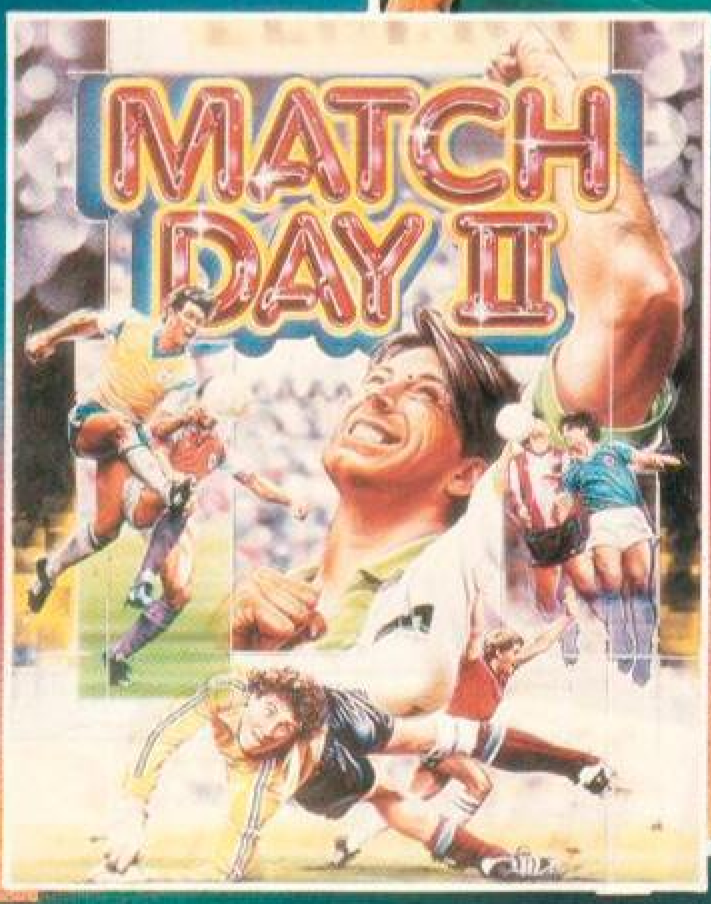


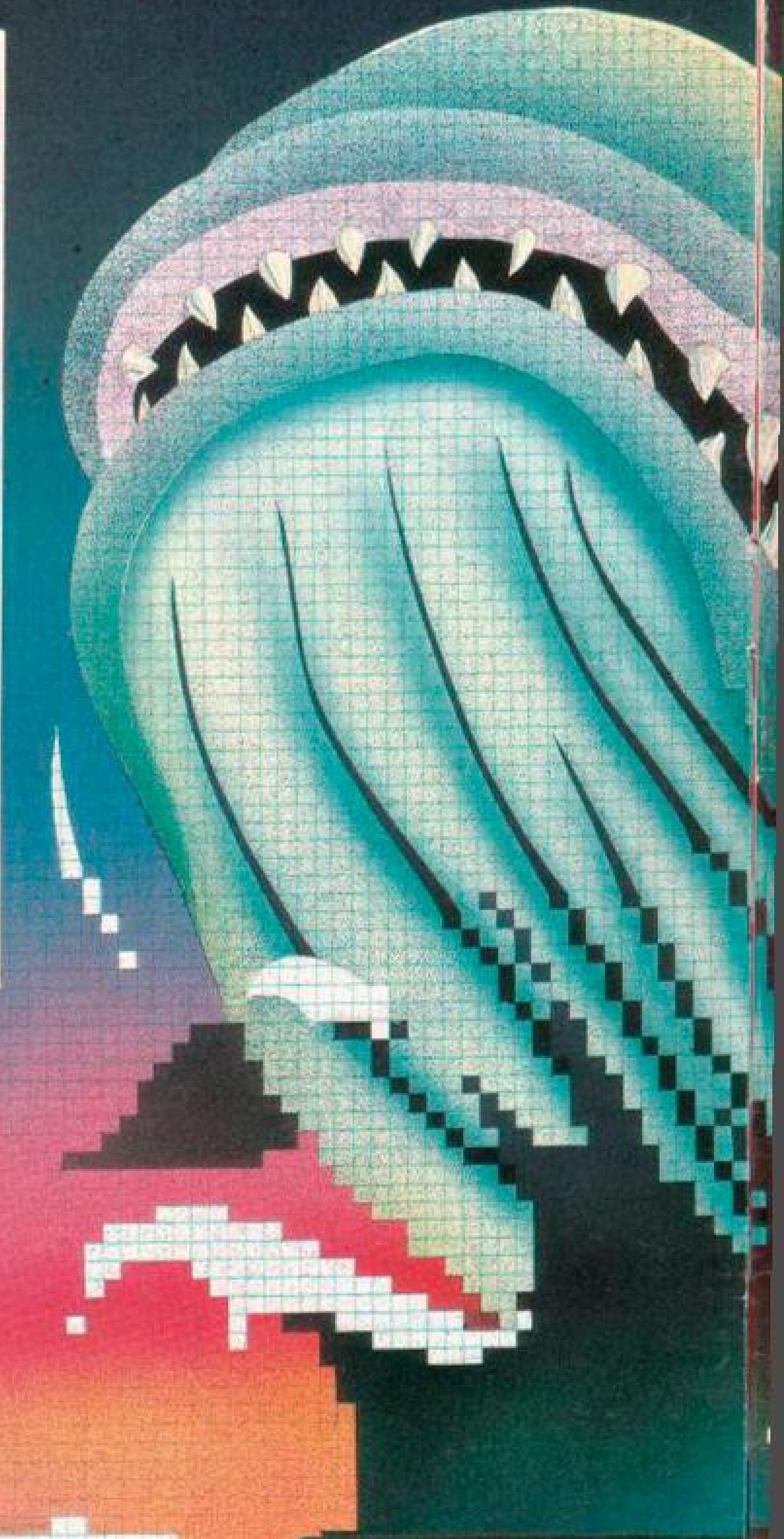
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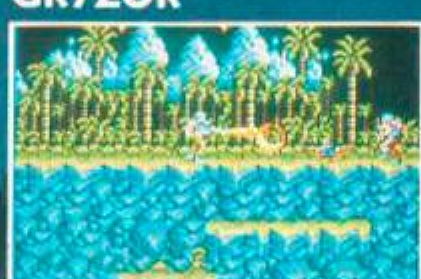
PACKS THE

MATCH DAY II



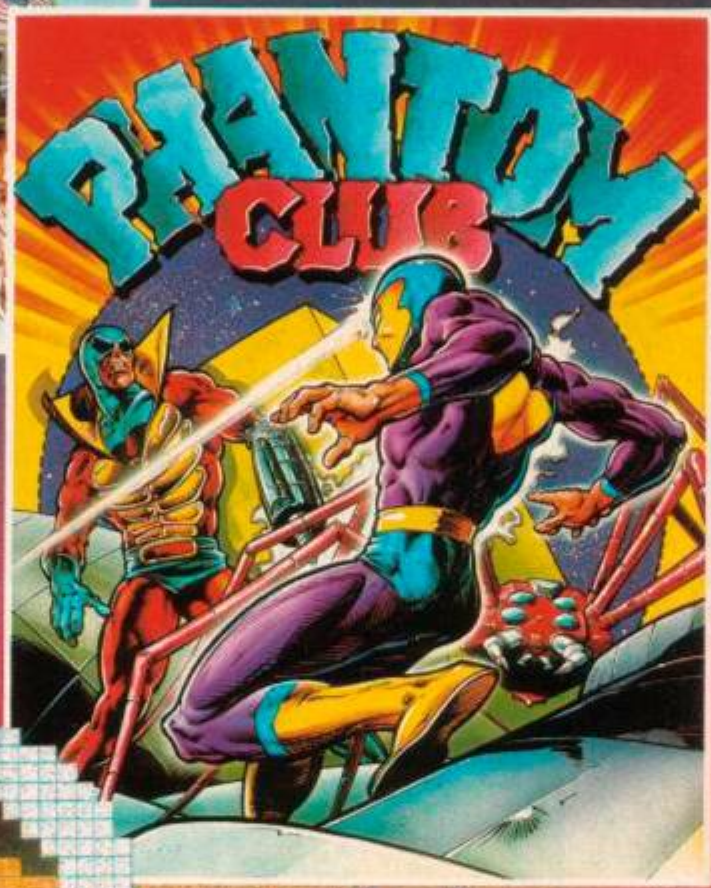
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ocean

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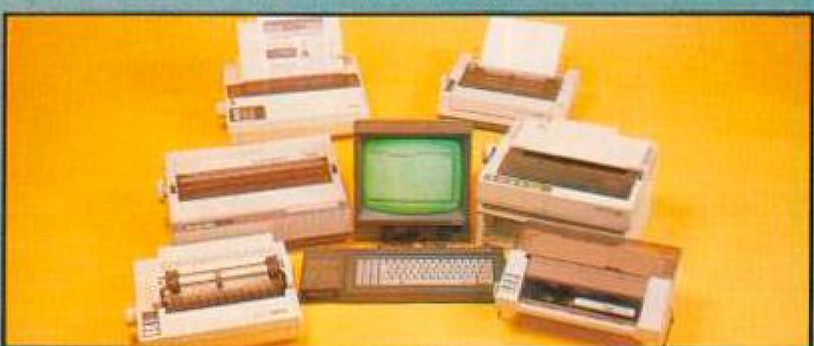
AMSTRAD ACTION FEBRUARY 1988

FRONT END

NEWS • LETTERS

SERIOUS SIDE

SOFTWARE • HARDWARE • PROGRAMMING



ACTION & ADVENTURE

GAMES • MAPS • PILGRIM



Coin-Op Blues

1987 was without doubt the year of the coin-op in the computer game world. Large sums of money were spent on licensing them, and even larger sums were raked in from their subsequent sales. You might think this would leave both the software houses and the public deliriously happy, but I believe that during 1988 we need to see a marked change in the attitude of both to coin-op conversions.

The main problem is that coin-op games are intended to get you to put as much money in the machine as fast as possible. This means they are fast, loud, colourful and extremely tough to get anywhere with. This last point is surely what home computer games should not be about. They should be games that can take some while to fully understand, require use of the brain rather than reflexes, provide a very long lasting challenge and immense variety.

Games like *Driller*, *Head over Heels*, Infocom adventures and *Xor* are examples of games that would do badly as coin-ops, but are far more absorbing and rewarding than any coin-op conversion.

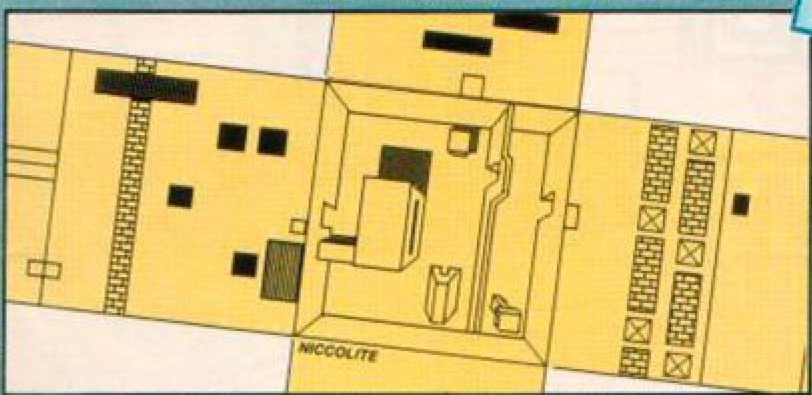
As for coin-ops being fast, loud and colourful, the eight-bit home computers can never match them or get even close. This results in endless disappointment when the home computer conversions just don't measure up to the arcade originals.

It's only a matter of time before people get bored with the stream of virtually identical coin-op conversions, that get played for a week and then forgotten about. I won't be sad when that day arrives. What this industry needs is software designed for home computers, that has a long shelf-life and gives real value for money, rather than a few hours of mindless blasting.

Bob

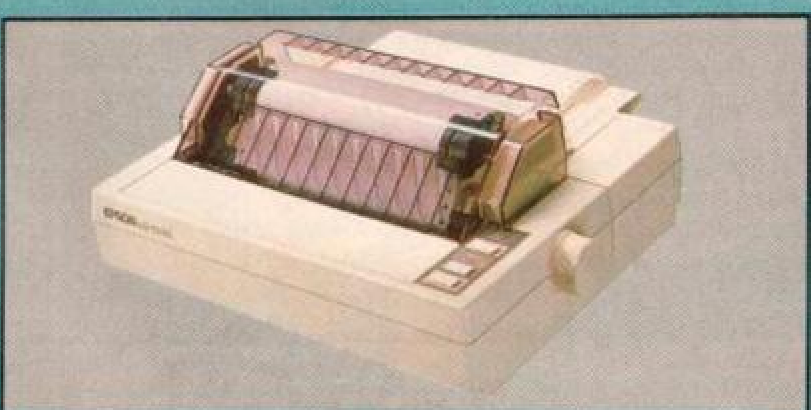
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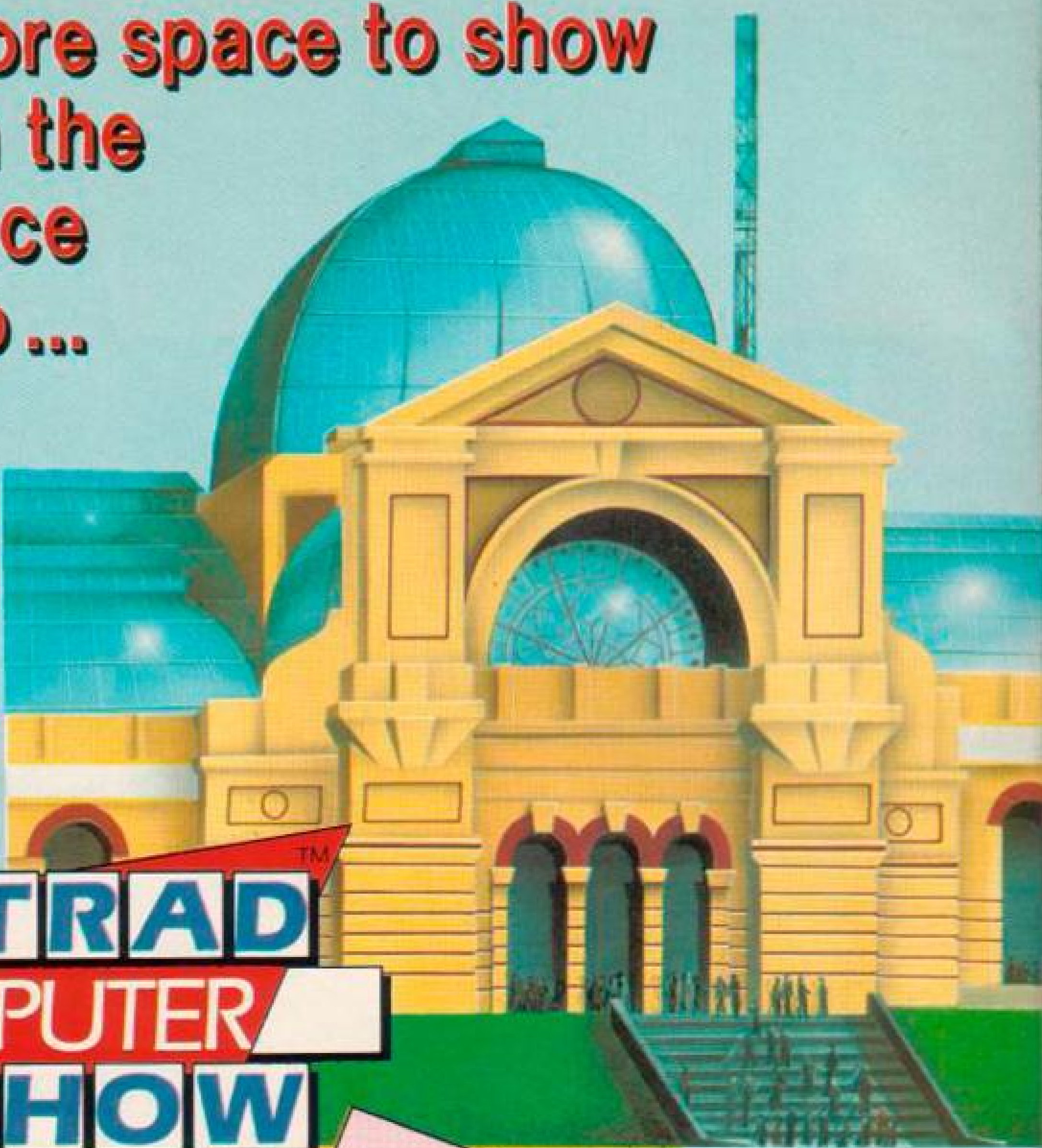
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Alexandra Palace
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REACTION

The address to send your letters to is: Reaction, Amstrad Action, 4 Queen Street, Bath BA1 1EJ. Remember we can't reply personally to letters, otherwise we wouldn't have time to produce a magazine each month. All mail-order and subscription enquiries or problems should be aimed at our Somerton address listed on Line-up - we just have to pass them on if they come here.

Hush-hush Helpline

First let me say thank you to who took the trouble to reply to my request for help from the helpline.

I also think that you should add another line to your advice at the top of the the Helpline page, to be tacked on just after the bit where you say "send a SAE or you won't get a reply". It should be for those who have offered their help and should read something like, "If you get a request for help with a SAE then use it, even if it's – sorry can't help".

Yes, I have sent three requests, each containing SAE + 13p stamp and as yet 4 weeks on, have had only one reply. I won't name the other two they know who they are. I played the game so that they would not be out of pocket in offering their aid. Maybe they should also play the game and use the SAE and 13p stamp to reply to me.

P. Bertram
Fraserburgh

You are quite right to expect the courtesy of at least some sort of reply and I've taken your suggestion and added a note to that effect on the Helpline page.

Seeing double prices

When I go down the town to our local computer shop, I naturally go straight to the Amstrad shelves. There is a rack with budget games on, and opposite there is a range of £10 games. When I look through both racks I find some games on both racks. The games include *Knightlore, Sabre Wolf, Alien 8* and several other which are priced at both £1.99 and £9.95. Also they have different company's names on. Could you please tell me why this is.

Paul Mitcheson
Bognor Regis

The games you mention are by Ultimate and are all quite old. They have recently been re-released as budget titles, although it would seem from what you say that some shops still have old stocks from when it was full price. They are the same games, so get the cheap ones.

Sinking the pirate ship

I was stunned when I read Mr Scott's letter in Reaction last month by the number of copies Mr J Battu owned which was something like 1,269. I agree with lots of people that have written in about piracy killing off the software industry. It must be hard for software companies to decide whether to bring the prices of their products down so that they are more affordable, and the pirates could buy their games cheaply and not have to resort to copying, or for the software companies to make the games more expensive to try and compensate for the money being lost.

It would be a good idea to have a special code imprinted on the disks that has to be present for the program to work, but the code cannot be copied and does not show up when you catalogue the disk contents. The ideal system would be to have a Lenslok, as used in *Elite* on the Spectrum, so that people could freely make backup copies of their games, but other people couldn't because of the Lenslok. The disadvantage comes in that each game would have to have its own individual Lenslok made with different patterns.

Of course this could be costly but surely not as costly as the pirates are for the companies. The companies must know that the pirates are causing a big decrease in the sale of games and unless the software companies do something fast they are going to keep on losing money.

I myself have often turned down offers of copied games from my friends although I can realise how tempting it is to copy games as they are such a price in the shops. I am trying to make my friends give up copying games. "It's only killing the software industry", I tell them. Slowly they are giving up their evil ways as it dawns on them that copying the games stops the software companies from making money, without money they will go bankrupt and bankrupt software manufacturers do not make very good games, in fact they don't make any at all, a bit like cockerels not laying very good eggs. So in the end no more games, although the pirates don't realize it, in the end it works against them and there are no more games for them to copy.

Peirs Bullock
Banbury



"MAKES YOU FEEL REALLY SMALL – YOU CONVINCE IT 'JREZLIX' IS A PROPER WORD AND IT SARCASTICALLY SAYS 'THAT WAS A GOOD PLAY'"

8 or 16 bits

It's getting a touch tedious isn't it. Wherever I turn there's a multitude of lecturing bods pushing "16 bit" down our throats. Machines like the Amiga or ST may be "the future of home computers" but I still think there's plenty of life left in the old 8 bit. Especially the Amstrad.

After all, the only advantage I can see are faster, better graphics and superlative sound – all with massive amounts of memory. Mmm seems good, yet all these attributes will be used just for fabulous games software.

After all, that's the reason why most people will be upgrading and we all know the problems associated with that. All the software and hardware add-ons become dust-laden at the back of the cupboard or we have to go through the hassle of trying to sell it. Doesn't it make you want to cringe?

Yet how does this affect the humble Amstrad user? You don't need me to tell you what a strange lot the Amstrad appeals to. Compared to the Spectrum and CBM64 owner we don't spend anywhere near as much money on software, yet prefer to concentrate on utilities and add-ons (Shown by the demise of the software orientated Amtix magazine). For this reason I think the CPC's will survive longer than the other popular 8 bit machines, as all the Spectrum or CBM64 owners I know, are planning on upgrading to an ST soon – because of its great games potential.

I may seem a bit pessimistic in denying this new technology and its benefits, but my Amstrad 6128

set up will satisfy my needs for the forseeable future.

In conclusion, probably the only way of me bothering to even consider desk space for an Amiga or ST is if a generous reader kindly donates one to me. Or possibly if an emulator is produced so that all CPC software and hardware add-ons will run on the 16 bit "mega machines".

Lee Russell
London

I don't think 8-bit owners need worry about the rise of the 16-bit machines. The existing machines will continue being supported for several years yet, but will probably become a budget backwater in terms of games. It's going to be a gradual transition, but nonetheless an inevitable one. We will do our best to continue supporting the CPC's for as long as there are owners of them.

The best possibility for all concerned, is for Amstrad to launch their own 16-bit machine to replace the 6128. A machine that plays superb games and does a whole lot more is what CPC owners will want to upgrade to. I'm sure most of them would like to stick with an Amstrad, priced and marketed as only Alan Sugar knows how.

Just too difficult

I would like to bring to light what I feel is a very important point about arcade games. This is not the usual letter moaning about the price, (although I don't agree with that) it concerns the game itself.

I don't think that I know of anything more annoying than spending a hard earned £10 on a game, after it has had a good review, and then I get it home, load it in, and then I can't get anywhere!

I don't pretend to be very good at arcade games, quite the reverse, so when I've spent £10 I expect to get more than a tenth through, so I've wasted £9 worth.

What I am getting at is that games for personal computers aren't there to make money like in a slot machine, you make it quite hard so people keep playing it and keep putting in more money, but we're not here to make money, just have fun.

I think that all games should have a cheat mode in them (and not just a hidden one as in some) I mean a clear option. You could have different levels like, double life, double time, avoid some ghouls, avoid all ghouls etc.

I think this is an important point and I hope that computer software producers read it, because it's putting me off buying games at least unless a friend already has it and can assure me it's not too hard.

Paul Nicholls
Hoddesdon

You may have already noticed my editorial on the subject of coin-op conversions, and we would seem to be in broad agreement. I think it's simplifying the problem too much to say it's just one of changing difficulty levels and adding cheats. What it needs in the long term is for software to be ***developed*** *with home computers in mind, not just converted.*

Call for comparisons

I had recently placed an order for Goldmark's DMP-2000 Buffer upgrade kit when I read the review of Goldmark's Character Font Designer in the October Amstrad Action. Your reviewer Pat McDonald seemed to damn it with rather faint praise and then finished it off by saying the "the competition supplies more features, but at a higher price". Unfortunately he doesn't say what the competition is. Could you please let me know what other software combines character font design with the capability of down loading the font into the printer? Perhaps you could even suggest one which in your opinion is the best in terms of features and ease of use.

That gives me an idea! How about publishing the occasional comparative review of a particular type of hardware product or software package. I would be particularly interested in a review of all the available 5 1/4 inch disk systems when the new one by KDS systems is on sale. The Amstrad CPC has now acquired quite an impressive range and choice of hardware and software packages, unfortunately we home users don't have the opportunity to try them all before making our choice. We have to rely on your expertise and advice, and then hope that we don't make expensive mistakes when we take the plunge! How about it AA?

By the way, I think your magazine is slightly on the frivolous side for my taste with rather too much emphasis on games, but it is still the best of the three! Why did I stick with the "official" magazine so long? Even the discounts and cheap offers by the "official" user club are not as good as you can get elsewhere on the open market.

Rodney Hart
Wokingham

Funny you should mention font packs, there just happen to be a couple reviewed in this issue, and mentioned in the printer review as well. As for comparison reviews, we do them from time to time, the spreadsheets and printers in this issue are two examples. We will be doing more in the future on other types of packages.

Benefits for subscribers

Special goodies for subscribers to your magazine? What about your regular loyal readers who support their local newsagent? Surely you're not trying to pirate us from him by offering inducements preferentially? Now for the enquiry, *Pendown*? Is it advertised anywhere, has it got an R.R.P and how much does it really cost?

An offering for the long running debate if we disk users all buy cassettes and copy them to disk because it is cheaper (and what better reason?) supply and demand will not drop the price. The tools of piracy will spread? Most theft is opportunist!! We aren't all pirates!

Stephen Braithwaite
Scunthorpe

For more information on Pendowns availability I suggest you call the producers, Logotron, on 0223 323656. Subscribers get special goodies because it makes financial sense for them and for us. However we couldn't do without local newsagents because the bulk of our sales still come through them and the big chains. The best we can do for loyal readers who don't subscribe is to do cover cassettes from time to time and keep the quality of content in the mag as high as possible.



"HEY DAD – ACCORDING TO THIS YOU CAN AFFORD TO GIVE ME MORE POCKET MONEY..."

Leaderboard bugs

I'm writing in response to the letter in your December issue from Alan McDermaid concerning the bug in the US Gold game *World Class Leaderboard*. I too had become quite proficient at the original game and rated putting as my strongest point. I was therefore sent into a state of disbelief and blind fury when I found myself taking a total of 16 putts, at a single hole, from a distance of two feet. I conceded defeat and returned the game to US Gold along with a letter explaining about the bug and stating that the program needed altering.

After a few weeks I received another copy of the game but with no written reply or explanation and needless to say the bug was still there. I expect that if Alan has received his reply yet he will no doubt find the same.

Surely by now, someone at US Gold will have twigged that we are not all a bunch of no-hopers and that there really is a fault within the game itself. U.S Gold have had an up and down reputation with me and I'm sure anyone else who has purchased such contrasting

games as *Winter Games'* and *World Cup Carnival* (or should I say rip-off) will agree. They have on their hands an excellent piece of software, but they need to provide the backup for when things go wrong.

As the bug must surely have surfaced in all of the copies of the game sold, then there must be swarms of angry Amstrad golfers chewing on their tees and tying knots in their putters in frustration. So come on, lets hear from you and then maybe we can get this bug ironed out.

Maybe you at Amstrad Action, in your infinite wisdom, could take up our case for us and then people like myself and Alan could get back to smashing course records and not our computers in anger

Edmund Doherty
Harrow

Our influence is limited, and in my experience software houses are more prone to do something when they are confronted by irate customers or legal action. Our most effective tool is our reviews and in this case, much to my chagrin, we failed to spot the bug. I doubt if US Gold will release a debugged version because the horse has already bolted, so to speak. If we all complain loud enough now though, it might help stop a similar situation arising again.

Satisfied subscriber

Some time ago, your magazine reported that a new Star Trek game was on the way. Since then, I have eagerly awaited its appearance in the shops. I have just seen it listed in a mail order catalogue but it is for the "IBM Amstrad"! Why not a scaled-down version for us poor CPC owners? I am sure it would sell extremely well, and we must outnumber the owners of the newer machines.

May I say that I find Amstrad Action an extremely good magazine. However, as a very busy office worker and housewife, I find it difficult to spare the time to enter all the interesting "Type Ins". Would it not be possible to issue a tape/disk with these on from time to time? I certainly would be willing to purchase them for a reasonable charge.

Incidentally, with reference to "moans and groans"in Reaction in the December issue. I am a subscriber, but have no such criticisms to make. I used to find that my local shops, W H Smiths included, used to sell all the issues before I realized they were out. I still had trouble even when I ordered it with a newsagent. Considering that I also got *Spindizzy* on disk when I started subscribing, I am well satisfied.

Mrs M F Blissett
Crawley

Star Trek is due out sometime later this year, but with its chequered history of long delays I wouldn't like to venture a guess at exactly when.

Unfortunately we can't put the Type-Ins on tape or disk every month because it would cause too many administrative headaches. What we do try to do is keep them to a reasonable length (not three or four pages long), and put them on cover cassettes when we do them.

What's it worth ?

I am writing this letter to moan about some of the £8.95-£9.99 software. The other week I bought a game called *Jack the Nipper*, this cost me £8.95, then two days later I bought a £1.99 game called *Dizzy*. I compared the two games together and found that the £1.99 was the best.

I know a lot of other people have experienced this and are a little bit mad, so I've come up with an idea. All software houses must get a software estimator once they've made a game. Once the game has been made the estimator will look at it and play it, then he'll give a price to the software house as to how much it should sell. If they do this then all of us who save up for games won't get ripped off.

Shaun Eccleston
Beech Hill

It's a novel idea but wouldn't work in practice because peoples views about games always differs so widely. After all you wouldn't think of doing the same with records, would you? Who is to say whether a Bruce Springsteen single should be full price or budget? Do I hear 10p for a Des O'Connor album?

Far Reaching...

My main reason for writing this letter is the weird advert in the classifieds column of the issues 26 & 27. Is this an advert for "Freescape?"– if so, am I the first to spot it – is there a prize?

The second reason is to ask the person who phoned me in connection with the sale of my computer to please ring back soon – we were cut off in the middle of a phone call, with me knowing nothing about him.

Gavin Manning
London

Yes, it is for Freescape. No, you weren't the first to spot it. No, there isn't a prize.

AA comp confusion

Being a loyal AA reader since issue 1 (though I am getting a bit worried about the up-coming lack of content) I jumped at the chance in AA 24 of winning a bag of goodies.

When you printed the answers in AA 26 my excitement grew as I saw I had all the answers right. Although I didn't win, you did print that everyone who got the first five questions right would get a free game. So why didn't I?

Is this because I followed the instructions for question 3 and only mentioned one of the free games, or is it because I was in such a hurry to send my answers off that I didn't even try question 6 about that Tipsy and Obsessed Overcharged Tomato, Toot? If so, why did you say that you only needed to answer the first five questions for a free game?

Midd El-Alfy
Salfords

I'm afraid the winners box was misleading and sloppily worded by yours truly. The free games went to those who had come up with the funniest names for Toot, not everyone who got the right answers. Sorry for any confusion caused.

Mail-order anger

I would like to take you to task about the various references in issue 28 to Siren Software, with which firm I have had an unfortunate experience like the correspondent from Thornton Heath whose letter appears on page 11.

The most useless item of software I have ever purchased was the original *Discovery* program produced by Siren Software which has made me cautious about purchasing another of their products. The letter I have referred to above seems to indicate that they are still producing rubbish. You have made no comment about the letter but I realise that you derive revenue from their advertisements and have to be circumspect in what you say, but do you not owe it to your readership, which also provides you with revenue, to do something about a firm who are so uncaring about their customers?



"I THINK I PREFERRED BREAKFAST WHEN YOU JUST READ THE NEWSPAPER"

To emphasize that the experience of your correspondent is not an isolated incident I would relate that I did write to Siren on 15 October 87 ordering a copy of their print master program, subject to them confirming that, in the light of my previous experience, the program would perform as advertised as adding "near Letter quality to any printer", pointing out that I would be using an NEC PC-8023BE-N printer with my CPC6128. That letter has been totally ignored as I have heard nothing at all from Siren software, which indicates to me that they have no confidence in their own product. Incidentally in your magazine the wording of their advertisement has been changed to indicate the program "Will add NLQ to most printers" making my enquiry even more important.

You have produced a favourable review on page 19 of your latest issue of Siren's *Micro Design* which is apparently in production but although on page 25 you indicate that the firm has a program "Eprom Programmer" coming soon they are already advertising it and offering it for sale in their advert on page 24. Thus you seem to be giving a lot of attention to Siren Software products but their advertising is conflicting and they apparently have the habit of ignoring complaints and requests for information from customers.

The unfortunate thing is that most of their products being in the nature of utilities are attractively described and seem to be just the sort I am interested in, but in view of the unsavoury and unhelpful manner in which Siren Software conducts its business I remain unwilling to spend money on their products, as there seems to be no way of obtaining redress from complaints.

Do you not consider that you ought to do more to warn your readers of the situation with this firm, and not merely leave them to draw their own conclusions, should they happen to spot the reference in the letter from the correspondent referred to above, about their ignorant attitude.

Alternatively, I would suggest that you obtain and thoroughly test a random selection of Siren's software before you endorse and accept advertisements for their products.

P S Craven
Madeley

I think we can all tell you're annoyed with Siren but your criticisms seem very unfair to me. For a start, let's clear up our involvement. We review, impartially and thoroughly, as much software and hardware for the CPC's as we can. We don't make particular favourites of Siren, or anybody else, it's just that they are one of the most active companies in the CPC market. In our experience they usually produce good quality utilities at competitive prices.

As far as Siren are concerned, I think you are blowing things out of proportion. There will always be problems when dealing with mail-order companies, we know ourselves from running our special offers and subscriptions. Where these occur they should be sorted out, but you can't go accusing Siren of everything under the sun because you didn't like one product and didn't get a reply to a letter. If money had actually changed hands and the product does not perform as advertised, then you would have a legitimate grievance. Try calling Siren on 061 228 1831, and see if you can get some satisfaction – without bloodshed if you don't mind.



"HOMEBASE TO DATABASE – YOUR TEA'S READY"

● 6128 vs 464 + Ram

In Type-Ins and commercial advertisements for software specifically aimed at the 664/6128 computers, I feel it would be most helpful if you and the advertisers, would take the trouble to advise those of us whose equipment is a 464, expanded with the Dk'Tronics ram pack, whether the program in question is compatible.

Unfortunately, such is not always the case and money can be wasted in return postage on the one hand and time spent typing in a useless program on the other; all of which adds to frustration and annoyance.

What about it? are you prepared to adopt this as a matter of procedure and make strong recommendations to your advertisers.

Wm. A.C.C. Smith
Windsor

I can only speak for us on this matter, but where it is relevant we do try to test software with the add-ons. With most Type-Ins the problem of incompatibility is not one of extra memory, but the extra commands that the 6128 has that the 464 doesn't. Therefore no 6128 only program we print will work with the 464, ram pack or no ram pack.

● Upgrading the CPC?

I'm sick and tired of the doom and gloom news about the future of the CPC machine. I believe the great Alan Sugar should come out of hiding and clear up all the confusion. At least he owes his success to those people who supported his product.

I believe there is no reason why the CPC should be discontinued. It is the best home micro available – others pale in comparison when you consider the CPC's capabilities (speed, colour, resolution, and good Basic). Alan Sugar should concentrate on the CPC and not the Spectrum which is a nonsense machine.

In fact with a little upgrading the CPC can easily give Amiga and Atari ST a run for their money. I believe Amstrad's CPU (Z80A) can be upgraded to the new CPU. That would enable the palette of colour to be increased, speed up the machine and perhaps boost the resolution.

Come on Alan, do something about improving the CPC before I start calling you names. Tell us about your plans for the CPC. Give us a cheery new year to start with.

David Wong
Singapore

Don't worry about support for the CPC's disappearing, there will be plenty of stuff around for a couple of years at least. Amstrad may well launch a 16 bit machine, but I don't think they can base it as closely on the 6128 as you suggest. It's much more sensible for them to design a new machine.

● Oh dreary him

Oh dreary me, you're not gonna like this... not one bit. You see, as an ex-subscriber (since issue one in fact) I have seen Amstrad Action travel through thick'n'thin (no pun intended!) over the years and can't with-hold my burning desire to air my views on the drastic decline of a once fabulous mag.

Your covers have been a topical debate for some time. I always used to admire Amtix's artful covers and wondered why you stuck with the boring old photo's that appeared month after month. I noticed your latest issues are now featuring info covers on what is inside.. original or what ? Cum' on! Gedda grip huh ?

Admittedly, your game reviews have maintained a reasonably high standard though I wish you'd use a bit more colour now and again. You raised the cover price (cos of Amtix's demise...oops! No can't tell the truth here can I ?) an extra 25 pence for no apparent reason. "High paper prices.." is weak, to say the very least. (see C. Stevens, Reaction 28 for another sane comment).

The Pilg has remained a totally boring feature. Scrap it and replace it with interesting features on software houses and interviews etc.

Browsing through the Cheat Mode section made me laugh. The Classic Collection is a good way of using up space eh? On a more congratulatory note, thank Phil Howard for his *Leaderboard* hack, I'm sure its length put many a budding golfer off, but I wanna take this opportunity to ask all those *Leaderboard* owners to take the bother of typing it in. It's well worth it. Indeed, a slap on the back for Phil himself for a fluent offering of pokes for all the best games.

Your "AA Christmas Cracker" was a great disappointment. Sorry, but it has to be said. *The Duct* was expectedly poor (it was free) and filling the other side with a "superb batch" of type-ins (which I'm sure most people had already typed in anyway... okay, okay, except the couple which hadn't been printed before, not surprising!!) was just a way of taking up space.

Come on AA. Get your act together. I remember the good ole days of *Kung Fu, No. 1* and massive issues.. the days of the Amstrad are numbered, so lets not get into a disheartening rut huh?

Anyway, I look forward to your replies to my views upon your mag.

Neil Jones
Bristol

I'm afraid I don't share your nostalgia for the good old days of Amtix. The reasons that mag didn't succeed are exactly the things you seem to have liked it for. The comic covers were probably their biggest minus point.

As for your other criticisms:

1. Price increase – your cynical attitude does not change the facts.

2. The Pilg is very popular – why should everything be done just for you?

3. There are always many requests for reprints of old pokes. It's not a case of filling space. If you don't believe that, I'm sorry but again it doesn't change the truth of the matter.

4. I still think the Duct *was a brilliant game, certainly much better than* Kung Fu *or* No 1.

5. It costs us money to put the Type-Ins on the tape. We do it because we think the readers will find them useful and interesting. I think you'll find that many people were more interested in them than the game.

6. Finally, we are not in the business of disheartening ruts. For as long as there is a CPC market, we will be trying to bring enjoyment

AMSCENE

Monthly update on what's new on the CPC scene

Dustless drive

Sussex-based firm SBS Computer Supplies have announced the world's first three-inch disk drive-head cleaning kit. Clearhead – as it is known – comprises a three-inch disk with special cleaning fabric and cleansing fluid. According to SBS Clearhead takes 30 seconds to remove dust and other harmful contaminants from a drive-head's surface. Each cleaning kit may be used a maximum of 15 times, and each kit wipes the pocket of £9.95. More from SBS on 0273 726331.



Contaminant-free drive-heads with SBS's cleaning kit

Who's a pretty boy then ?

Parrotry Plus is the new version of a drawing and design program from Treasure Island Software. It's an enhanced version of the program which we reviewed in issue 18. It costs £26.90 and includes two disks, the Parrotry Plus disk and the Parrotry Plus Library.

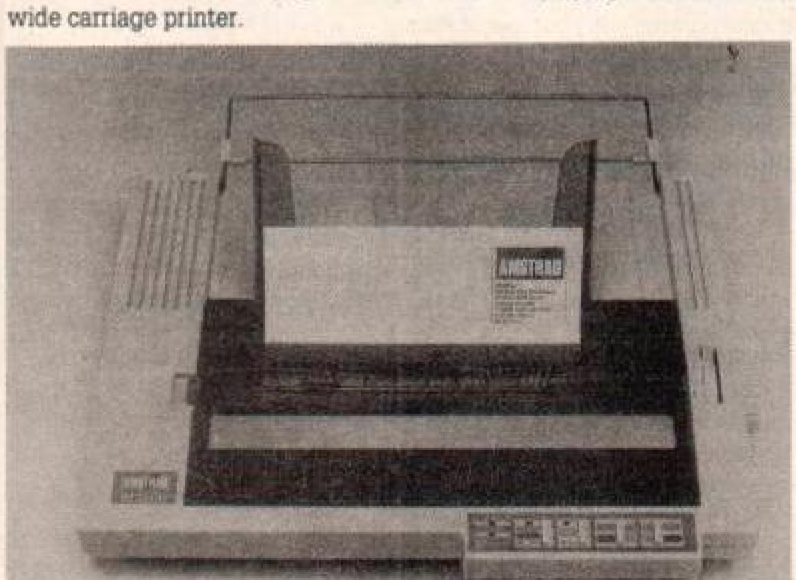
If you buy before the end of February then you'll get a free disk, containing an educational program called ABC. It illustrates letters of the alphabet, when they are pressed on the keyboard, with an animated picture of an object beginning with that letter. It's available now, on disk only, for all three CPC machines.

Amstrad and Epson Settle

The legal wrangle between Amstrad and Epson, over the use of the letters LQ on printer names, has been settled. Epson have dropped a lawsuit against Amstrad, and agreed to both companies using the letters LQ (Letter Quality) on their printers.

The disagreement arose when Amstrad launched their LQ3500 printer and Epson issued a writ to try to stop them, claiming that the LQ suffix was recognised as being associated with Epson.

Now that the dispute is settled both companies are going ahead with planned printer launches. Epson's latest launch is the LQ500 which you 'll find more details of on page 27. Amstrad are bringing out the LQ5000 a wide carriage printer.



The LQ 3500 that started the row.

Do you sincerely want to be a programmer ?

Hewson are looking for a team of programmers to write a game which is due for release in late summer of 88. The game concept has already been decided upon and it will come out on both 8 and 16 bit machines. Hewson need a full-time team leader and two coders, and freelance graphic artists and musicians.

The team leader needs to be a serious-minded individual with an established track record in the computer entertainment industry. The two coders need a good working knowledge of at least one home micro and be looking to broaden their experience in a successful programming environment. If you think that you fit the bill then call Hewson on 0235 832939 (24hrs) or write to them with a CV and samples of your work at: Hewson Consultants Ltd, Milton Park, Abingdon, Oxon, OX14 4RX.

War and Games

Guadalcanal and *High Frontier* are two war games just released by Activision. In the former the action takes place on the Pacific island of the same name and in the wild western sounding one you are in fact out in space with Star Wars technology. They cost £9.99 and £14.99 on tape and disk respectively.

Galactic Games, the game of interstellar sport, will slither into next months issue head throwing and all. Five events are included: 100m slither, space hockey, psychic judo, head throwing and metamorph marathon. It's priced at £9.99 on tape and £14.99 on disk.

Comic Characters

Two games coming soon from Piranha are based on characters from comics: Halo Jones from 2000AD and Roy Race from Roy of the Rovers.

Halo is a 50th century woman who lives on the Hoop, a place where all of America's unemployed are housed. This has all the potential for some real future shock, doesn't it? Then again, the scenario is that Halo has to do the shopping and get home again – exciting stuff!? *Halo Jones* is due to be released in March.

Even more spectacular is the scenario for good old Woy of the Wovers, that evergreen football hero: Melchester Rovers is in danger of being demolished and not surprisingly Roy is displeased. A charity match has been arranged by Roy to raise money to keep the ground going. The team have been kidnapped and the match is only hours away. If Roy doesn't find all the players by the kick-off then he'll have to play with what he's got, or even alone. The big question, of course, is can you fit all those egos onto one pitch? Both games will cost £9.95 and £14.95 on tape and disk respectively.

Compendium Gremlin

Compendium is a new compilation by Gremlin, of four games



A 16-bit Amstrad?

Rumours are rife that Amstrad are set to launch a new 16-bit computer. However, true to form, Amstrad are keeping tight-lipped about the subject: "We can't disclose any information until the product has actually been released" was all a spokesperson for the company could offer.

The rumours have been sparked by a story in *Computer Trade Weekly*, suggesting a Commodore Amiga compatible machine was under development. An article in *Popular Computing Weekly* followed, indicating that the machine would come as a direct replacement to the 6128. And there are others that believe it's Amstrad's idea of an early April fool.

There definitely is room in the market for another computer, especially one using 16-bit technology. There are large numbers of people planning to upgrade from ZX Spectrum's, Commodore 64's and Amstrad CPC's to something a little more exciting and powerful. This time next year the Atari ST and Amiga population will have grown rapidly, possibly even outnumbering 8-bit machines. Amstrad are in a good position to bring out a computer with a specification close to current 16-bit machines. Will they do it? Well, they haven't denied the rumour, but then they haven't admitted to it either.



Shifting Shows

The latest Amstrad show has shifted dates as well as locations, to February 2-4 in the Great Hall at Alexandra Palace. The shift is due to the need for more space – many of you will remember the last show at the Alexandra Pavilion which was real sweatbox.

The show runs from Thursday to Saturday instead of Friday to Sunday, because of, say the organisers, "increased demand from the business community" – who obviously want their Sunday morning lie-in. Future Publishing doesn't have a stand at the show, but keep your eyes peeled and you should spot us milling around.

Another show on the move is the PCW on September 14-18. It's transferred from Olympia to the main hall at Earls Court. The main reason for the move is again the need for more space. We'll have more details on that one later in the year.

Budget Disks from Firebird

Firebird have announced a new range of budget software – on disk. They are all old titles, but now available two to a disk, each disk selling for £6.99.



Cheaper disk software is what Amstrad users have been crying out for, so let's hope it starts a trend. There are eight disks to choose from, containing 16 games: *Thrust / Ninja Master, Rebelstar / Pneumatic Hammers, Thrust II / Parabola, Harvey Headbanger / Willow Pattern, Gunstar / Ultima Ratio, Spaced Out / Realm, Mission Thunderzone/Think, Genocide/Bombscare.* There are some good titles in amongst them, including the Raves: *Thrust, Rebelstar, Harvey Headbanger, Mission Genocide* and *Think*.

New Releases

that you probably haven't played since childhood. They're Snakes and Hazards, Christmas Ludo, Shove-a-Sledge and Tiddly Drinks. The playing pieces are all animated members of the Wink family. *Compendium* is priced at £9.99 and £14.99.

Also from Gremlin is *Masters of the Universe, the Movie*, that's the title of the game – honestly. He-Man and Skeletor battle it out on Earth, in an attempt to defeat each other once and for all – some hope. £9.99 will get you the tape and £14.99 the disk.

Deflektor is programmed by Vortex who have brought you such classic games as *Highway Encounter* and *Alien Highway*. Their latest game covers the principles of optics. You try to line a laser beam up on a target by reflection, fibre optics and various other means. It's priced at £9.99 and £14.99 respectively for the tape and disk.

Activision Newies

The Prestige Collection is a new compilation of four of Lucasfilm's hit games on the Activision label. They're *The Eidolon, Rescue on Fractalus, Ballblazer* and *Koronis Rift*. It'll cost you £9.99 on tape



and £14.99 on disk.

IK+, the sequel to *International Karate*, is on the streets now. It's got extra features added to make life more difficult for you. New moves have been added and now there are three fighters on screen, you and two opponents. *IK+* costs £9.99 on tape and £14.99 on disk.

CPC's get the Krypton Factor

New games label TV Games is releasing a game based on the Krypton Factor TV show. The show puts four contestants through their mental and physical paces to find a champion.

The computer version will also combine tests of mental agility with joystick action – will they manage an assault course to match up to *Combat School*? Armchair geniuses and couch potatoes can test their skill for £7.95 on cassette.

Cap'n Bob and the Tetrominoes

Mirrorsoft is spinning out *Tetris*, a puzzling game from Russia where you try to fit all the pieces together. It's based on "tetrominoes", which are shapes made up of four squares joined along their edges.

The idea is that they tumble onto the screen and you have to pack them as neatly as possible to stop them reaching the top of the screen. It sounds simple but it has all the makings of an incredibly addictive game. There's even going to be a high score competition run by Mirrorsoft, the winner of which will get a trip for two to Russia. £8.95 is the tape price and £12.95 the disk. It's due to arrive by the end of January.

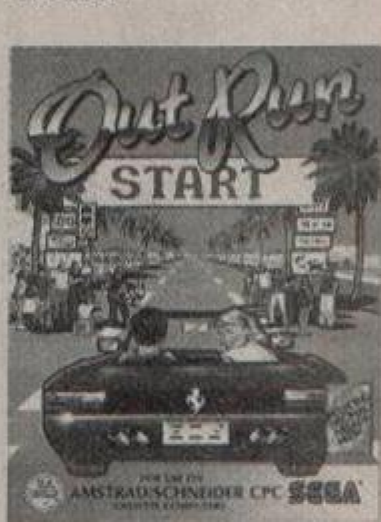
Return of Dexter

The follow up to *Get Dexter* is winging it's way across the channel. The French version is called *L'Ange de Cristal*, but the English version, which is being produced by Infogrames, isn't ready yet. Not even the name has been decided. In the meantime here's a screenshot of the French version to whet your appetite.

Out Running

Out Run is the arcade conversion by US Gold that everyone's been waiting for and they did get it released in time for Christmas. Only just, mind you, and certainly not in time for us to get a review in.

The arcade game had a car in which you could sit, but unfortunately the computer game doesn't, perhaps it wouldn't fit in the cassette box. It's a race against time and obstacles in the driving seat of a sports car. It costs £9.99 on cassette and £14.99 on disk. Initial impressions suggest it doesn't get anywhere near the arcade game, but we'll give you a full review next issue.



Helpline

Where eager Amstrad experts volunteer aid to fellow readers having problems

If you too feel helpful, just send us your name, address, phone number (say so if you don't want it to be printed) and subject on which you want to help. Please write on a postcard or the back of a stuck-down envelope to simplify administration here in the office. Send to: **Helpline, Amstrad Action, 4 Queen Street, Bath, BA1 1EJ.** If you are asking for help, make direct contact with the appropriate Helpliner - don't pester your usually-patient (but pressed) editor. By post, you must include a self-addressed, stamped envelope for the reply - otherwise you won't get one. And if you telephone, stick to socially acceptable hours!

Reminders: Anyone involved in piracy is not welcome on this page and if problems arise they will be removed. Keep it legal, it's in everyones interest. If you are involved in piracy remember this – if you are found out it's not going to be difficult to find out where you live, now is it?

A plea to helpliners – if you do receive SAE's from people, please return them with some acknowledgement. Lastly a reminder that if you want to come off the Helpline you should write and say so.

Knight Tyme, Speldome, Pipeline 2, Harvey Headbanger, Alien Highway 2, The Apprentice, International Rugby, Raid, Mutant Monty, Donkey Kong, Sweevo's World, American Football, Jet-boot Jack, Blagger
Roger Murphy, 6 Glenageary Woods, Glenageary, Co Dublin ☎ (0001) 80 6858

Adventure writing --GAC, Quill etc. Also play-testing and evaluation, program listings etc. Anything at all to do with writing adventures!
Pat Winstanley, 13 Hollington Way, Wigan, WN3 6LS

tips, pokes, maps for Rebelstar, Back to Reality, Xcel, Knight Tyme, Spellbound, Finders Keepers, Equinox, Get Dexter, Zoids, Antiriad, Chronos, Sentinel, Deactivators, Aliens, Stormbringer, Starstrike II, Nexus, Mercenary, Nonterraqueous, Tau Ceti, Exolon, MGT, Dragon's Lair, Icon Jon, Ranarama, Academy, Starglider, Nether Earth, Star Raiders 2
Steve McClay, 32 Lycett Rd, Wallasey, Merseyside, L44 2DA

Basic programming and guidance on routines
Stephen McCormick, 27 Coshneuk Road, Millerston, Glasgow, G33 6JH

writing programs, machine-code, solving problems, GAC and mapping adventures, testing adventures and other forms of program, teaching programming, graphics, sound -- and almost anything else
IR Murphy (aka Smurf the Warlock), 25 Craven St, Accrington, Lancashire, BB5 0SE

Basic, machine code, Dataflex, Xenix, Turbo Pascal, GAC.
L.V. Townsend, 61 Lowergate Rd, Accrington, Lancs, BB5 6LN. tel. 0254 382349

programming in Basic and machine-code, Knight Tyme
Phil Stockdale, Thorndale, 18 Shire Rd, S Ferriby, S Humberside, DN18 6JG ☎ (0652) 34363

chess programs, Tasword 6128, Print Master, Toolkit (Beebugsoft), Advanced Art Studio, Mini-Office II, Advanced Music System, disk utilities (and writing them yourself), RSXs and firmware calls
Alastair Scott, 30 Talbot St, Grangemouth, Stirlingshire, FK3 8HU

Programming (Basic and machine code), graphics, sound and music, some hacking, debugging programs, Amstrad Light Pen.
Andrew Stevens, 4 Kingston Avenue, Acklam, Middlesborough, Cleveland, TS5 7RS. tel. 0642 813052 - not Tues or Fri evenings or during college hours.

CPM stat, DMP 2000, Cobol, Nevada Cobol, Turbo Pascal, Locomotive Basic, colours from Basic, disk to tape, disk to disk, Tasprint, databases - 464
Allen Reavie, 22 Mourneview St, Portadown, N. Ireland, BT62 3AW

Basic, Forth, assembler, firmware, graphics, digital electronics - 664
Tim Mo, 180 Brookland Terrace, New York, North Shields, Tyne and Wear, NE29 8EP

adventure programming
Simon Forrester (age 13), 15 Halcroft Rise, Wigston Magna, Leicester, LE8 2HS

Art Studio, Mini-Office 2, DMP 2000 - CPC 6128
David Marek, 2 Camus Road West, Edinburgh, EH10 6RB

programming in Basic and machine-code - 464
Michael Ewan, Hall Bank, New Hutton, Kendal, Cumbria, LA8 0AU

tape-to-disk transfer, infinite lives, maps, adventure solutions, French games, Amstrad program guide
Phil Maxfield, 40 the Brow, Brecks, Rotherham, S Yorks, S65 3HP ☎ (0709) 54 5055

Dizzy, Destructo, Rambo, 3DC, Eagles Nest, Black Magic, Trap Door, Renegade (levels 1-5).
J. Redfern, 10 Oaktree Close, Mansfield, Notts. NG18 3EN

Basic programming (mainly utilities but some games)
Mark Bonshor, 4 Stoop Lane, Quorn, nr Loughborough, Leics, LE12 8BU

Basic, some machine-code (will print listings for 50p + 5p/page +sae) -- 6128
Andrew Smith, 5 Station Rd, Foggathorpe, nr Selby, N Yorks, YO8 7PU ☎ (0757 85) 540

Basic programming, useful calls and pokes, hacking, tape-to-disk, Melbourne Draw, supersprites, repairing joysticks, tape loading, Basic scrolling messages, sprites in border, ripping out title pages, music and effects from games
Carl Harker, 38 Lyndon Ave, Blackfen, Sidcup, Kent, DA15 8RJ

Listings and text files 9p per K. Send a disk or tape. NLQ doubl. Screen dumps 50p. Postage free if over £1.00 else add 33p. Penpals computer matched. Free advice on Basic programming and adventure writing. Debugging service, list of ideas for school programming projects, GAC help (all free).
Daryl Ward, 3 Pineways, Appleton Park, Warrington, Cheshire, WA4 5EJ. tel. 0925 64805 between 6.30 and 7.30pm

bridge clubs - scoring on Mitchells, aggregate and Howells, name and address lists, library books, master points (calculation and certificates) - all CPCs using CPM for Masterfile and Superscript
FB Brighton, 30 Ranmoor View, 410 Fulwood Rd, Sheffield, S10 3GG ☎ (0742) 30 7555

programming (Basic, some machine-code)
Jeffrey Hunt, 2 Deweys Way, Gillingham, Dorset, SP8 4BW

Basic, Logo, Laser Basic, CPM, Fig-Forth, simple machine-code, GAC, disk or tape loading, tape-to-disk
Edward Reid, 157 Ladyloan Ave, Drumchapel, Glasgow, G15 8RX

Basic programming, printing problems (on DMP 2000), loads of games, pokes, maps, type-ins, machine-code
Guy Sanders, 270 Willesden Lane, London, NW2

Basic programming 464, machine code 464, Maxam on rom, DDI-1 disk drive and using 3' disks.
Martin Wilcocks, 38 Ambleside Close, Bromborough, Wirral, Merseyside, L62 7JF. tel. 051 334 8812

any aspect of writing a fanzine
Richard Hannah, 48 James St, Helensburgh, Strathclyde, G84 8XG ☎ (0436) 3310

programming basic 1.0; sound (some enveloping), graphics (collision detection and animation), interrupts, tape and disk filing, printer commands — DMP 2000 — printing of listings, screen dumps, letters (phone for details of cost before sending), DK'tronics speech synthesiser, writing simple databases searches and sort routines
Gavin Manning, 20 Windsor Rd, Wanstead, London, E11 3QU ☎ 01-989 8843

Pokes, French games, Masterfile. (penpals wanted 464 with disk drive, interested in hacking games and tips etc.)
Geoff Smith, 60 Blackburn Crescent, Chapeltown, Sheffield, South Yorkshire, S30 4EG

C&G 747, HNC Computer Studies, serious users
John Wharram, 61 Silver Crescent, Chiswick, London, W4 5SF

machine-code, CPM, hacking - 6128
Tony Hoyle, 11 Dorset Rd, St Annes, Lancs, FY8 2ED ☎ (0253) 72 7368

Basic, machine-code, especially graphics - 464
PJ Higginson, 194 Turton Rd, Bradshaw, Bolton, Lancs, BL2 3EE ☎ (0204) 58907

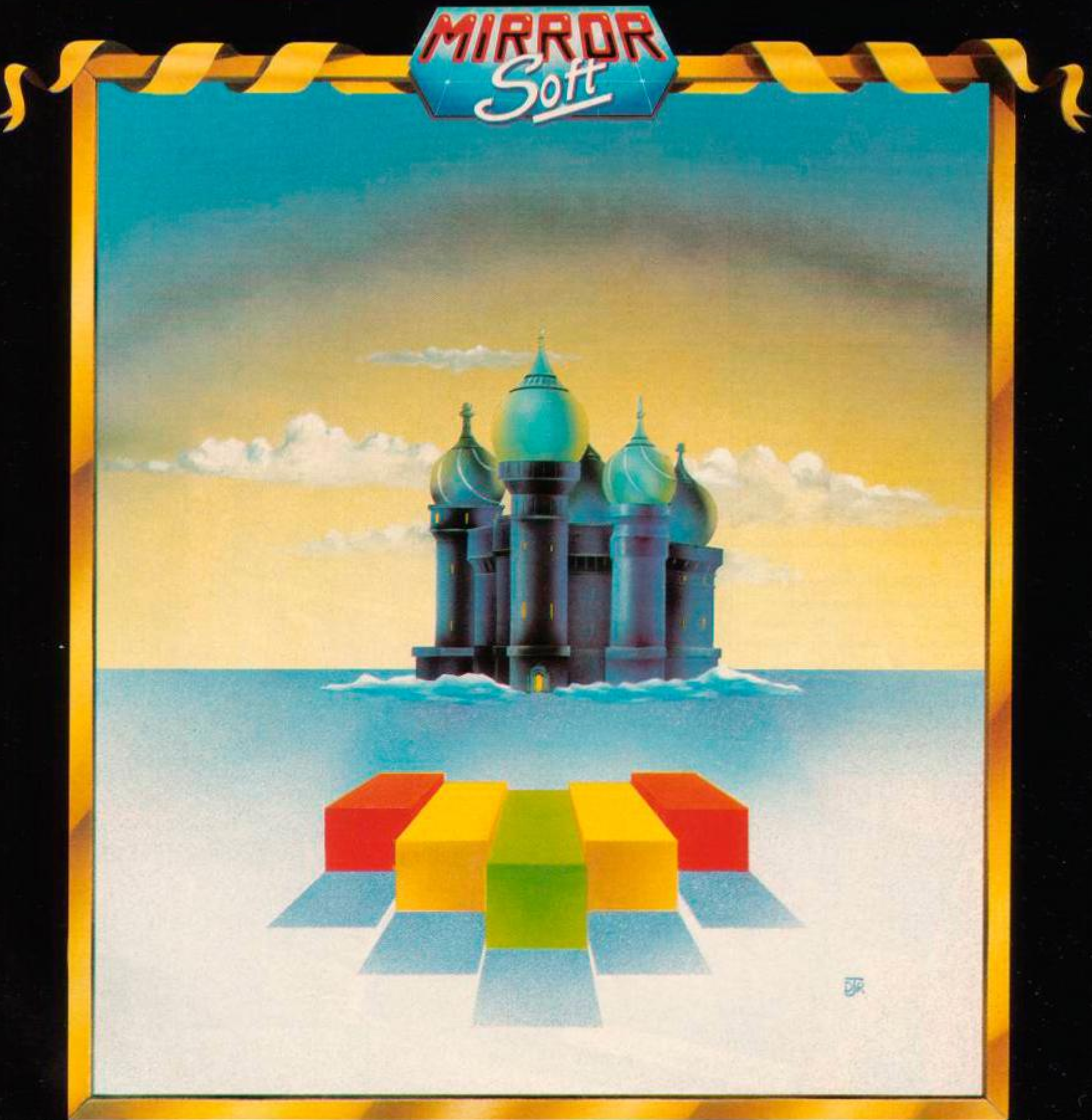
Basic, simple machine-code
Duncan Ellis, 6 Clifton Terrace, Ilkley, W Yorks, LS29 8ED

Spellbound, Eidolon, Dragon's Lair
Scott Miller, 7 Inverness St, Drumoyne, Glasgow, G51 4EW

machine-code, Basic, Logo, CPM, graphics, sound, most CPC games
PJ Cook, Prestel 011 110 750

Lightforce, Knight-tyme, Zub, Xcel, Bomb Jack 1, Apprentice, Thrust, Saboteur, 3D Boxing (Amsoft), Kane, Oh Mummy. Good at programs that give lists of things, eg telephone numbers, games, stocks. - 464
John Girvin, 25 Moorgate Street, Belfast, BT5 5BZ. tel.Belfast 658939 between 7pm and 10pm.

TETRIS.



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Printers

For most people a printer is an essential addition to their back- up packages and services



KX-P1081

dot matrix, parallel,
Panasonic, ☎ 0753 73181, £281.75 rrp

Panasonic are renowned for building sturdy printers; the *KX-P1081* is no exception. It's not just the chassis that gives this impression either, but also a combination of tractor feed, roller mechanism and other internals.

The printer accepts all the standard Epson codes for alternating between type-styles and graphics printing.

A switch sits on the main control panel which gives easy selection of print modes: normal (draft), near-letter quality or compressed. The compressed or condensed print mode cannot be altered to any other during printing which means output designed for wide paper (or wide carriage printers) may be used.

Although a fraction slower than Epson's *LX-800*, the *KX-P1081* is fair value for money, given that it will survive hostile office environments like ours where printers get moved around a lot, sometimes less than delicately.

NL-10

dot matrix, serial,
Star, ☎ 01 8474151, £285.20 rrp

Serial printers are slower than their parallel counterparts simply because data flows through one line rather than seven or eight. That said, the serial version of the *NL-10* is only slightly slower than Amstrad's *DMP 3160*.

The *NL-10* is also available with a parallel interface. It costs a few pounds less, is a little faster, but otherwise is identical.

Star's printer is fully Epson compatible, and has a smattering of other useful typeface and graphics options. Double size and quadruple size characters, for example. Quick selection of character size and type is possible from the control panel which is handy.

A printer worth looking at due to its many functions and simple push-button selection. It's only worth paying the extra for the serial interface if you really need it, otherwise stick with the standard parallel model.

DMP 3160

dot matrix, parallel,
Amstrad, ☎ 0277 228888, £228.85 rrp

The *2000* was the first Amstrad printer to appear with the sleek front-loading system. This was quickly followed by the *3000* (no longer in production), and more recently the *DMP 3160*.

Both the *2000* (£159 rrp) and *3160* are virtually identical in operation. The two provide a healthy selection of type-styles – over 100 in fact – and both are Epson compatible. Sadly, the NLQ font is the poorest of all the printers tested.

The *3160* offers faster printing speed and IBM character-set compatibility on top of what the *2000* provides. The *2000* is unquestionable value for money, and although less of a bargain at £70 extra the *3160* still undercuts the competition by some way.

on Parade

computer. Richard Monteiro recommends six of the best, and all the
you'll ever need to work with them.



EX-800

dot matrix, parallel,
Epson, ☎ 01 9028892, £555 rrp

The *EX* printer combines the well-known virtues of cheaper 9-pin printers and several up-market features normally reserved for the 24-pin variety. By adding a colour kit the *EX-800* can be upgraded to a fully-fledged colour printer.

There are two NLQ styles to choose from: Roman and Sans Serif. These can be accessed from either the control panel or software. As can pica, elite, condensed and proportional type.

Character widths are given in characters per inch (cpi). Pica refers to 10 cpi and elite 12 cpi. Epson has cut corners by using a standard character width and simply altering the spacing between each letter to achieve either pica or elite character spacing. This gives elite text an unsightly squashed look.

A very fast printer with many useful options that is spoilt only by the sub-standard elite font.

KX-P3131U

daisywheel, parallel,
Panasonic, ☎ 0753 73181, £385.25 rrp

Daisywheel printers don't come cheap. The main reason being the mechanism required to drive the print head. Panasonic's offering is one of the cheapest available, and still has a good set of features.

If you're used to the print definition of a dot matrix printer, then you'll marvel at the quality produced by the *KX-P3131U*: it equals typewriter quality. The Panasonic comes with a standard UK Courier-compatible print wheel. This may, of course, be changed for any other Diablo-compatible character set.

Due to the way in which a daisywheel works it is slow, and fancy text styles are impossible to produce. The best the *KX-P3131U* can manage is bold, underline, outline and shadow – which, comparatively, is excellent.

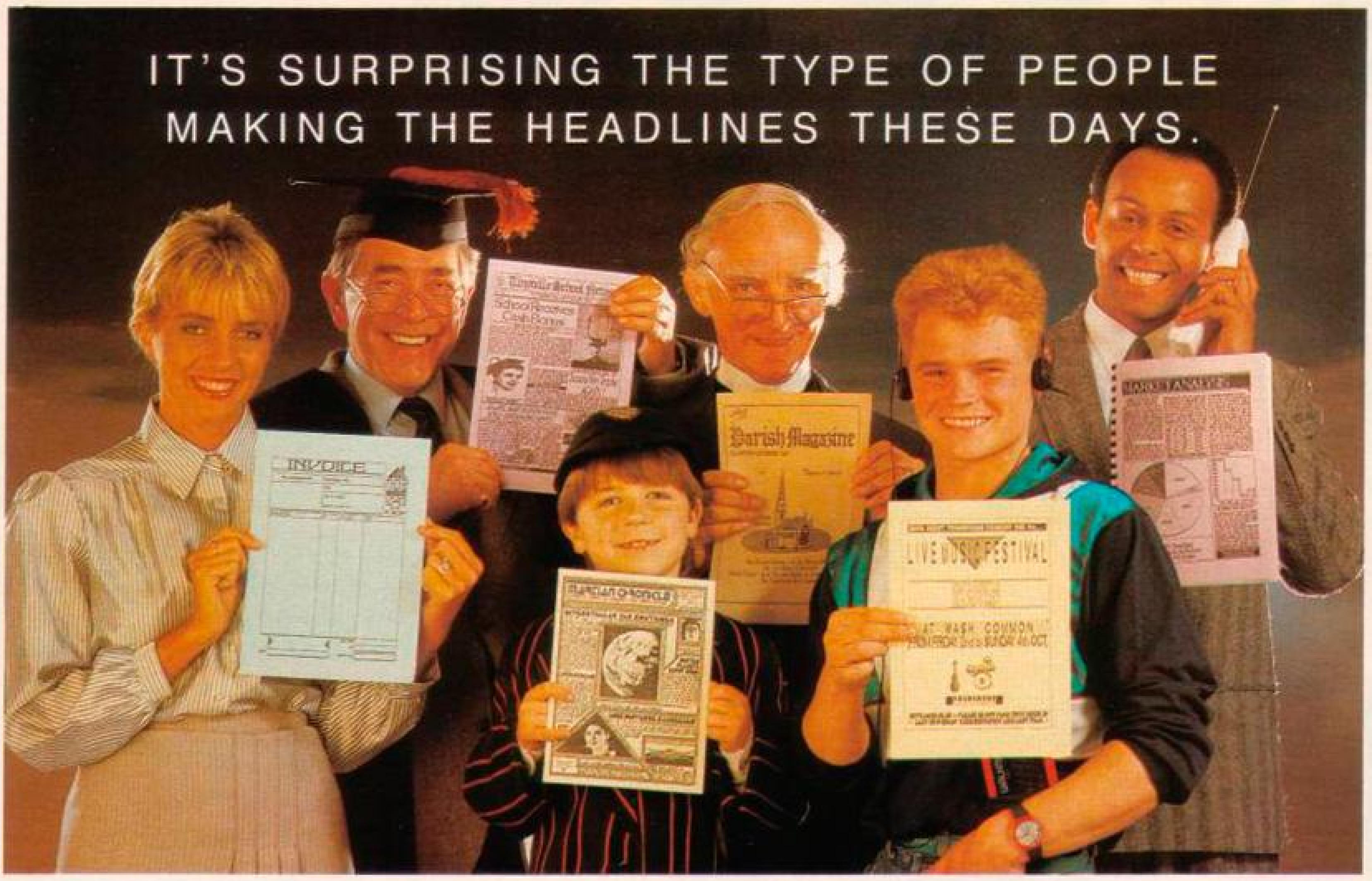
LX-800

dot matrix, parallel,
Epson, ☎ 01 9028892, £275 rrp

Epson's cheapest printer, the *LX-800*, follows on from the earlier *LX-80* and *LX-86* (both earlier models discontinued, but can still be picked up in various stores for a reasonable price).

The *800* is surprisingly nifty – and relatively quiet – for its compact size. It has automatic sheet loading, built in tractor feed and two near-letter quality fonts: Roman and Sans Serif. As with most Epson printers, extra features (such as cut-sheet feeder and longer-life ribbons) can be added.

Easily the fastest (sub £300) 9-pin printer mentioned in these pages. The only major shortcoming is the method of paper-feeding; fine for going forward, but it tends to jam when in reverse.



STOP PRESS

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As well as the ability to import digitised images there are outstanding facilities for drawing, spraying and painting using either the patterns supplied or your own pattern designs, enabling you to produce graphs, charts, diagrams and pictures.

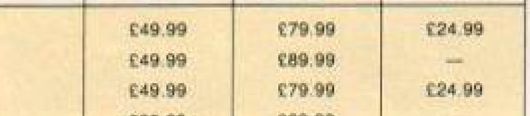
These can then be pasted, cropped or re-sized to fit any layout, and for those finishing touches a fantastic zoom is available.

HOT OFF THE PRESSES

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AMSTRAD CPC 6128	£49.99	£79.99	£24.99
COMMODORE 64/128	£39.99	£69.99	—

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AMS

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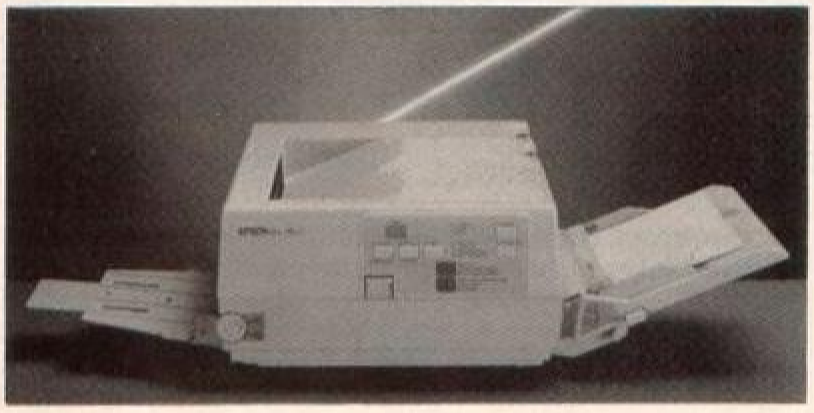
ADVANCED MEMORY SYSTEMS LIMITED 166-170 WILDERSPOOL CAUSEWAY, WARRINGTON WA4 6QA.
TELEPHONE: (0925) 413501 TELEX: 628672 AMS G FAX: 0925 58039

TUBELINK ON MICRONET 800 *TUBELINK # SUPPORTS THE AMX MOUSE AND ALL AMS SOFTWARE

Printer persona

There are five main types of printer. The commonest – and generally the cheapest – being the dot matrix printer. Images are produced via the printhead which fires a combination of pins at a ribbon. If looked at closely the image can be seen to be made up of many tiny dots: thus the name dot matrix. Dot matrix printers fall into two categories: near-letter quality (NLQ) – 9-pin printhead, and letter quality (LQ) – 24-pin printhead. On the plus side dot matrix printers are very versatile, inexpensive and reasonably fast. They can be noisy and the print quality, although passable, does not meet the standards required for professional documents.

● The GQ-3500 laser printer from Epson – £2,064.25 and it's yours



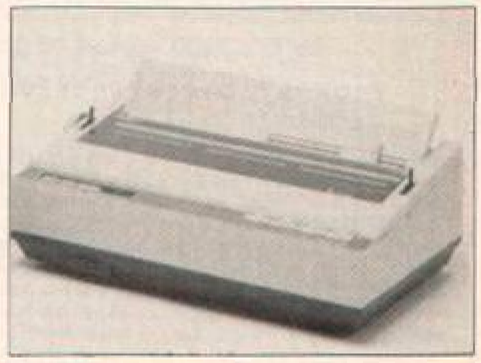


● Star's NB24-15 24-pin printer (£759) – power with the price

Two types of portable printer exist. Thermal and thermal/carbon transfer. These printers are probably the cheapest of the bunch, but tend to be slow, require special paper and output can be smudgy. Thermal printers use an array of heated elements (instead of pins) to produce an image on heat sensitive paper. The thermal/carbon transfer method uses a similar technique, but also employs a carbon ribbon to create an output that doesn't fade with time.

Ink jet printers don't require any form of ribbon: they use a set of nozzles that squirt quick-dry ink directly onto paper. The results are better than 9-pin dot matrix printers, but not – unless you pay through the nose – than the 24-pin variety. Also a lot faster and a lot quieter.

Daisywheel printers really pump out the decibels. They have a totally different method for placing print on the page – and it is this method that piles the pounds on the price. A swivelling daisywheel containing a character set is positioned vertically in the printer. Each time a character is printed the wheel turns until it reaches the required character, a hammer belts the character into the ribbon and on to the page – similar to a typewriter. The quality is excellent, but the time taken, speed and price are off-putting. Graphics are impossible.



● £385.25 for Panasonic's KX-P313U daisywheel – quality with added noise

The latest in printer technology is the page or laser printer. These are usually found tagged to an Apple Macintosh or similar for desktop publishing purposes. A page printer works by projecting a laser beam onto a rotating drum to form an image. Toner gets attracted to the areas of the drum that have been scanned (or hit) by the laser beam. When the paper is finally fed through, the toner is attracted to it and fixed using heated rollers. The process sounds lengthy, it is in fact very fast; several pages per minute is the usual output. Expensive and the quality, although good, is not quite up to the standard of the daisywheel. Their main advantage is where graphics and text are mixed, hence the DTP applications.

Vital statistics

Printer Function	Amstrad DMP 3160	Epson EX-800	Epson LX-800	Panasonic KX-P1081	Panasonic KX-P3131U	Star NL-10
Price②	£228.85	£555	£275	£281.75	£385.25	£285.20
Type	d/matrix	d/matrix	d/matrix	d/matrix	d/wheel	d/matrix
Interface	parallel	parallel	parallel	parallel	parallel	serial
Draft speed③	74 cps	200 cps	108 cps	89 cps		70 cps
NLQ speed③	19 cps	44 cps	25 cps	20 cps	14 cps④	16 cps
Dimensions	16*10*4"	18*15*5"	15*12*6"	16*11*5"	19*13*7"	16*13*4"
Buffer size	4k	8k	3k	1k	6k	1k

② Recommended retail price – actual price can be as much as 30% less than rrp, depending on where you look.
③ Results based on time taken for a 1000-character document, identical for each printer, to print in pica.
④ Daisy-wheel printer: it produces typewriter print quality.

Feature facts

Printer Function	Amstrad DMP 3160	Epson EX-800	Epson LX-800	Panasonic KX-P1081	Panasonic KX-P3131U	Star NL-10
Bold	✔	✔	✔	✔	✔	✔
Condensed	✔	✔	✔	✔		✔
Double width	✔	✔	✔		✔	
Double height						✔
Graphics	✔	✔	✔	✔		✔
Italic	✔	✔	✔		✔	
NLQ	✔	✔	✔	✔	✔①	✔
Outline					✔	
Proportional	✔	✔	✔	✔	✔	✔
Shadow					✔	
Super/subscript	✔	✔	✔	✔		✔
Underline	✔	✔	✔	✔	✔	✔

① Daisy-wheel printer: it produces typewriter print quality.

Fonts and effects

Following are print samples of some of the printers mentioned on the previous page:

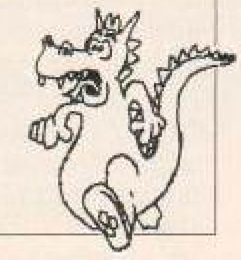
Panasonic KX-P3131U, daisywheel

```
abcdefghijklmnopqrstuvwxyzABCDE
1234567890-^!"£$%&U()_=@[:;],./

Pack my box with five dozen liq

bold
single underline
double underline
outline
shadow
```

bold
both superscript and subscript
italic
condensed
double-width
underline
proportional



Epson LX-800, 9-pin dot matrix

Pack my box with five dozen liquor jugs.

bold
italic
condensed
double-width
underline
proportional



Amstrad DMP 3160, 9-pin dot matrix

Printer paraphernalia

Most serious (or professional) software packages – such as word processors, databases, spreadsheets or graphics packages – require a printer to produce the final document. A few games will allow you to use a printer if connected, like *Sepulcri*, *Hacker II* and the *Infocom* adventures, but these are very much in the minority. Other products enhance or add to the printer's capabilities. Following is a list of the more useful printer-specific product available:

8k buffer kit

Goldmark, £5.50, DMP 2000, 3000 and 3160 only, reviewed issue 19

An easy DIY job that involves replacing one of the DMP's chips and consequently increasing its memory (buffer) four-fold. The buffer simply stores text before printing it. More text can be squeezed into a larger buffer area which means less time will be spent waiting for control to return to the computer.

Print Master

Siren Software, £12.99 disk only, reviewed issue 19

The package introduces several RSX (bar) commands to the system that enhance printed output. Screens may be dumped to the printer in 16 shades. Text can be printed in a variety of sizes and styles and, by using the font designer, new character sets may be created and used. Included is a software printer buffer which works in a similar manner to the printer's internal memory.

Re-inking ribbons – Aladdink

Aladdink will re-ink most makes of fabric printer ribbon. Prices depend on model – the DMP's, for instance, costs £2.15 to restore. Phone for details.

Dust covers – BBD Dust Covers

BBD has a range of dust covers for over 200 makes of printer. Prices start at around £5. And even if BBD doesn't have a dust cover for your particular printer, they'll make one to measure.

Printer ribbons – Discspe..ed

If you're having a tough time replacing your printer's ribbon, try Discspeed. The kent firm caters for most common types of printer, and several obscure ones. Prices start at 99p.

Printer stands – Viglen

Viglen has a range of stands suitable for sitting printers on. The paper is held neatly inside the stand. For the clear perspex type you can expect to pay £19.95, while the assemble-yourself models come in at £12.95.

Character Font Designer

Goldmark, £7.99 tape, £11.99 disk, reviewed issue 25

If your printer accepts standard Epson codes and has enough memory to store data for a new character set, then Goldmark's program may prove useful. It lets you create fonts and store them in the printer's buffer. When a document prints the new character set will be used.

Qualitas Plus

Seven Stars, £12.95 tape, £14.95 disk, reviewed issue 22

Qualitas Plus, formerly Qualitas 464, is a print enhancement package. It provides a simple method of reproducing high-quality typefaces (better even than NLQ) on almost any printer. These typefaces may be accessed from your own programs or from within commercial software – like Protext and Tasword. Five fonts are supplied, and others may be bought from Seven Stars.

Image Scanner

Dart Electronics, £79.95, DMP 2000, 3000 , 3160 only, reviewed issue 22

The Scanner is a hardware device that fixes to the print head of a DMP printer. With the software supplied, a picture (photograph or magazine cutting) can be passed through the printer and the images redrawn on screen – called scanning. Good results can easily be produced, and the final image can be tidied up with the software or, say, from Art Studio.

MicroStuffer

Frontier Software, £49.95, reviewed issue 23

This is a smart device that rests between computer and printer, unjamming the traffic, letting you get on with more important tasks. It is a 64k buffer that stores data en route to the printer. The computer shoves data out at high speed to the buffer. The buffer then sends it to the printer when the printer is ready to accept information.

Taspro 464

Seven Stars, £7.95 tape, £10.95 disk, reviewed issue 23

A product that will enable standard printers to produce proportionally-spaced justified text. Like Qualitas, Taspro can be used with commercial software. It intercepts data for the printer and inserts equal spaces between all words on a particular line (often called microspacing).

Tas-Sign

Tasman Software, £29.95 disk only, CPM plus only, reviewed issue 24

With Tasman's package you can create poster-size print in a variety of styles and fonts. Posters, notices and banners are constructed on screen and simply printed sideways on as much continuous stationery as you like. Although only four fonts are supplied, others can be purchased direct from Tasman.

Aladdink ☎ 08907 50965
4 Hurkur Crescent, Eyemouth, Berwickshire, TD14 5AP

Amstrad ☎ 0277 228888
169 King's Road, Brentwood, Essex, CM14 4EF

BBD Dust Covers ☎ 0257 422968
The Standish Centre, Standish, Wigan, Lancs, WN6 0HQ

Dart Electronics ☎ 0502 513707
Unit B5, Oulton Works, School Road, Lowestoft, Suffolk, NR33 9NA

Discspeed ☎ 0959 62117
Freepost, Westerham, Kent, TN16 1BR

Frontier Software ☎ 0423 67140
PO Box 113, Harrogate, N Yorkshire, HG2 0BE

Goldmark Systems ☎ 07072 71529
51 Comet Road, Hatfield, Herts, AL10 0SY

Seven Stars ☎ 06284 3445
34 Squirrel Rise, Marlow, Bucks, SL7 3PN

Siren Software ☎ 061 2281831
2-4 Oxford Road, Manchester, M1 5QE

Tasman Software ☎ 0532 438301
Springfield House, Hyde Terrace, Leeds, LS2 9LN

Viglen ☎ 01 8439903
Unit 7, Trumpers Way, London, W7 2QA

WORDS WORK

How to get the most from your word-processor and printer

Pyraword on parade

Gremlin's word-processor has several surprises when it comes to printing: print codes are inserted and defined in a similar manner to the other popular word-processors, stored commands may be used, a printer configuration file automatically loads at the beginning of a session (this may be edited), documents may be chained together when printing. If you have a 6128 – or an extra 64k of memory plugged into the back of your 464 – then printing takes place in the background.

The full stop on the function keypad controls printing. Pressing it once sends the document in memory to printer; hitting a second time pauses printing.

Bank in time

If you have an Amstrad with over 64k of memory then, when you select to print text, printing occurs as a background task. This means you can edit another document or perform other operations while the printer is busy. *Pyraword* uses the second bank of memory as a printer buffer. It stores text in this buffer until the printer is ready to receive further data. This is done under interrupt which means the machine doesn't lock-up while printing.

On a 64k machine, you'll have to wait for a document to finish printing before you can perform another task. The Dk'tronics 64k expansion ram is a worthwhile investment in this case. All Dk't products are available from Ram Electronics on Ø252 85ØØ85.



Controlling codes

Print codes are special characters which, when sent to the printer, cause certain printer functions to turn on or off. Like bold, italic or underline lettering. *Pyraword* represents codes on screen in exactly the same way as *Tasword*: An upper-case inverse video character switches on an effect, and a lower-case character switches it off. Codes are entered by holding control and P, followed by another letter.

Each control code has a sequence of characters associated with it. It is this sequence that is sent to the printer. All the control code definitions are held within a file, WPRINTER.CFG, which automatically loads when you run *Pyraword*. If this file is missing from the disk then default Epson codes will be used.

```
CONFIG FILE:                                  (SET FOR EPSON-FX8Ø)
[ØØ,13,F=Y]                            Pen ink, paper ink, L Feeds
[Language=Ø]                    Language character set selection
{@_^<@|>     reset printer                                (Esc @)
{C_ ^<^Ø}    condense on                                 (Esc 15)
{c_^3 }      condense off                                (Esc 18)
{D_ ^<G}      double strike on                            (Esc G)
{d_^<H }      double strike off                           (Esc H)
```

You can load and modify WPRINTER.CFG as it is an Ascii (or text) file. This means you can change the printer configuration to suit your printer if, say, it doesn't use Epson codes, or you wish to alter existing codes, or your printer has extra features you wish to add to the file.

Line extension

Unlike *Protext* or *Tasword*, *Pyraword* only accepts a maximum of 8Ø text columns on screen. This translates to the printer unless you use a certain control code that makes the printed word continue past the 8Øth column. The up arrow (^) does the job. This feature is particularly useful if you decide to switch to condensed print as much more can be squeezed on each line.

Save the existing file to another disk – or better still, rename the file – before attempting to edit it. If you make a mistake you can always revert to the old file.

Part of the configuration file is shown above. Only text in square or squiggly brackets is used by *Pyraword*. The rest is ignored. It simply serves as labels so you can understand what is going on – similar to a REM statement in a Basic program.

The first line of options, [ØØ,13,F=Y], define pen and paper colour. If you look in the Basic User Instructions you'll find a list of numbers and associated colours. 664 and 6128 users need look no further than the top of the disk drive casing. The F=Y bit refers to formfeeds. You can elect to send a formfeed following every carriage return.

Extra character

If *Pyraword* finds an up arrow character in the text at print time it will subtract 33 from the character, check that the result is positive and, if it is, print the result. This means you can place actual printer codes in the text, like ^>M (Esc M) or ^>S1 (Esc S 1). To terminate this type of printer command use the slash (/)symbol.

Under control

Anything found in squiggly brackets are printer codes. The format is as follows: the first character represents the inverse character that will appear on screen to signify the printer code. After that comes the underbar symbol (on the same key as Ø). Anything proceeding the underbar is for the printer. The up arrow (found on the £ key) tells the system that the character following is to be decremented by 33 before being sent to the printer. The character sequence ^< denotes 6Ø - 33 which makes 27, or ESC. For example, condense-on translates to 27 15. With this knowledge it is very easy to substitute other codes.

If you have a Qume compatible daisywheel printer – like Panasonic'-s *KX-P313U* – then you could alter the control codes as follows:

```
{B_^<^p}        bold on                 (Esc O)
{b_^<^G}        bold off                (Esc &)
{S_^<^x}        shadow on               (Esc W)
{s_^<^G}        shadow off              (Esc &)
{O_^<^g}        outline on              (Esc F)
{s_^<^G}        outline off             (Esc &)
```

Ways with Words

Do you have favourite tricks for getting the best out of your word-processor? Or do you have seemingly insurmountable problems? Share them with other Amstrad addicts. Send them in to: **Words Work, Amstrad Action, 4 Queen Street, Bath, BA1 1EJ.**

Daisywheel compatible

Recently I have seen letters from other readers asking how to obtain underline using certain daisywheel printers. I use *Tasword 6128* and a *Silver Reed EXP 5ØØ*. Not long ago I solved this problem.

The listing must be added to the existing TASWORD.BAS program. It modifies the 2nd character set so that each character in the second set represents an underlined equivalent to the 1st set. In addition each character in the 2nd set has a backspace and underline character added to it. Whenever you want an underlined character simply select it from the second set; this should work with most printers that don't have an underline facility.

```
235 GOSUB 51Ø
51Ø C=-2Ø:LOC=&43ØØ:REM change to &3EØØ for Tasword 464
52Ø FOR A=33 TO 125
53Ø IF A=35 THEN A=41
54Ø IF A=52 THEN C=76
55Ø IF A=117 THEN C=1Ø2
56Ø IF A=123 THEN C=128
58Ø FOR B=Ø TO 7:COD2=A+C:ADD1=LOC+8*COD2+B:ADD2=LOC+8*A+B
59Ø POKE ADD1,PEEK(ADD2)
6ØØ IF B=7 THEN POKE ADD1,255
61Ø NEXT B,A:FOR B=Ø TO 6
62Ø POKE LOC+8*251+B,PEEK(LOC+8*39+B)
63Ø POKE LOC+8*253+B,PEEK(LOC+8*21+B):NEXT
64Ø POKE LOC+8*251+7,255:POKE LOC+8*253+7,255:RETURN
```

Neil Spencer-Jones, Liverpool

Printer codes

Here are some tips to use *Tasword*. They are designed for *Tasword 464-D*, though most of them work with *Tasword 464*. Probably also with *Tasword 6128*, but I have not tried this. My computer is an Amstrad 464 with DDI1 disk drive. My printer is a Kaga KP 81Ø (Canon PW 1Ø8ØA), as this is Epson-compatible my tips should work with most printers.

Whenever you use a printer control character (pcc) you lose right justification. The manual suggests including a space code in the sequence of codes for the pcc, but this creates other problems: an unwanted space between a word and a full stop. A better solution is to define a pcc as just two spaces (32 32 on Epson-compatibles), I use inverse-m for this. Every time you use a pcc in a line of text, type [m] (inverse-m) between words somewhere on the same line. This will restore right justification.

Another useful pcc is one to give 1/12 line spacing (define as 6/72). If you are printing with double-spacing from the print menu and want part of the text single-spaced – perhaps for a footnote – this will give it. Another use is with single-spacing, subscript and condensed typeface: this gives very clear miniature printing. If you have a program that will send a catalogue to the printer, this typeface gives a convenient size for disk (or cassette) labels.

It's very easy to run out of letters on which to define printer control codes. The best idea is to get rid of the superfluous ones. For example [F], [f] and [u] are all set as form feeds. I use the f's to switch in and out of the French character set.

Martin Southwold, Manchester

Softly, softly

When using *Word Perfect*, the Supersoft word-processor, did you know that:

a) Ctrl ^ (that's the character that shares a key with the £ symbol) toggles line feed on and off.

b) Ctrl O followed by 27,120,1 gives near-letter quality print. If you change the 1 to a O print returns to normal.

c) Ctrl O and 27,65,24 gives double line spacing. Replace the 24 by 12 to restore single line spacing.

John Taylor, Co Down

Unsightly justification

When using printer control characters with *Tasword* – for example, to make a word print in *italics* somewhere in the line – the codes are displayed on the screen in inverse-video. On screen everything looks fine, but when the document is printed gaps are left at the end of lines that originally contained printer codes:

To cure this, enter text as usual inserting control codes where necessary. Once you've finished the document go back to the line containing printer control codes. Delete the last two characters in the line holding control codes, retype these characters just beyond the right margin (making sure insert mode is off) and then re-justify the line by holding Control and K simultaneously. Be careful not to rejustify the document after doing the above as this may upset your work.

Jane Killick, Hertfordshire

Right address

Placing an address on the left side of a letter couldn't be easier, but try to put it on the right and you're in for a headache. Having to enter so many tabs and carriage returns takes time and is very boring. Why not try this nifty idea? Alter lines 2Ø and 3Ø of the *Tasword 6128* Basic loader to:

```
2Ø KEY Ø,CHR$(13)+SPACE$(4Ø)+CHR$(1)+"Mastermag"+CHR$(13)+
   "AMSTRAD ACTION"+CHR$(13)+"Future Pub Ltd"+CHR$(13)+"4
   Queen St"+CHR$(13)+"Bath"+CHR$(13)+"BA1 1EJ"+CHR$(13)
3Ø KEY 1,CHR$(19)+CHR$(13)+CHR$(13)+CHR$(13)+CHR$(13)+
   CHR$(13)+"Dear "
```

Simply press *fØ* when you want the address and *f1* to print "Dear ".

Len Phillips, South Wales

Manuscript maker

As someone who uses a word-processor and manuscript paper a lot, I thought it would be useful to combine the two so that an example of music could be included in a piece of text. This is the way I worked it out:

1. In command mode enter SP <return> N Y M
2. For on type 27 49 27 69 <return>
3. For off use 27 64 <return>
4. Press ESC followed by Y and then @
5. Type 32 ten times (32 32...) <return>
6. Y if you wish to save printer driver

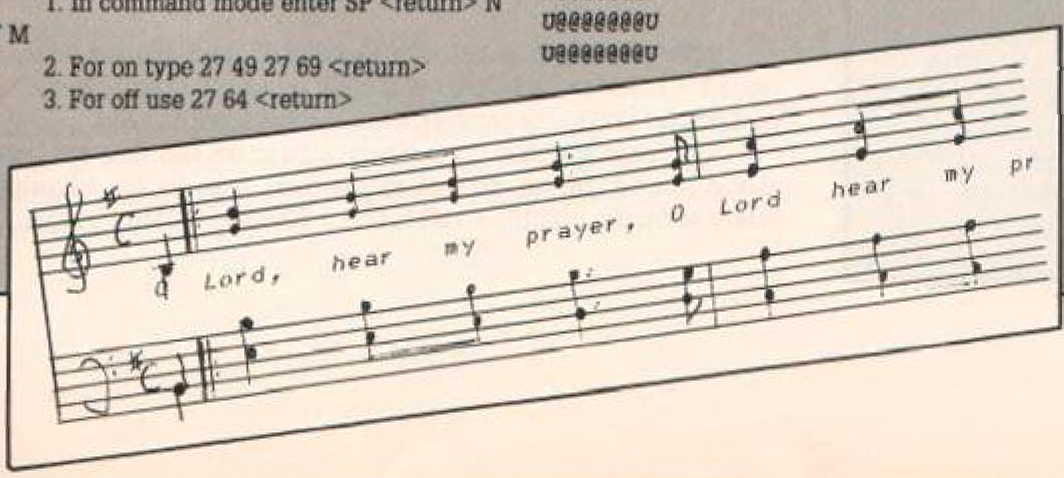
To obtain one stave type the following from within *Protext*:

```
M
U@@@@@@@@U
U@@@@@@@@U
U@@@@@@@@U
U@@@@@@@@U
U@@@@@@@@U
M
```

M means press control and X together followed by M

U means press control and X together followed by U

Here is an example of what can be achieved using this method of printing staves from *Protext*:



I have yet to work out a way of printing clefs, notes, dynamics and so on – but it's a start.

Andrew Sharp, Oxford

Absolute Beginners

The second in a series of articles taking you from complete ignorance to COMPLETE mastery of Basic

Résumé

Last month you learnt the CPC's keyboard layout and how to clear the screen using `CLS`. Did you try entering the `MODE` command mentioned at the end of the article? If you did, you will have discovered that it clears the screen and changes the size of the characters. If you remember `MODE` is followed by a parameter (number). The number can be Ø, 1 or 2. Anything else and Improper argument will appear.

So, switch on the machine, type `MODE 1` and hit the return or enter key. The screen clears and *Ready* is displayed at the top. Now enter `MODE Ø` followed by return. Again the screen clears, but this time the characters making up *Ready* are double width – they take up twice as much horizontal room as before. `MODE Ø` is known as the 2Ø column mode because exactly 2Ø characters fit on one line. Try entering `MODE 2`. You will notice that the text is now very thin. 80 characters will fit one line in this mode.

`MODE 2` – 8Ø column mode
`MODE 1` – 4Ø column mode (the computer defaults to this mode)

Message in a bottle

Now we know how to clear the screen, the next step is to learn how to write to it. Type...

```
PRINT "AMSTRAD ACTION"
```

...making sure to use the double quotes that appear on the 2 key (two keys to the right of `ESC`). Press the return key. The Computer should now print the words `AMSTRAD ACTION` on the screen, followed by *Ready*. You can, if you like, print any piece of text you like by placing it inbetween quotes. Thus, `PRINT "FRED WAS HERE"` will make the CPC print up `FRED WAS HERE`. To save time, you can use a question mark in place of the word `PRINT`. Thus...

```
?"AMSTRAD ACTION"
```

has the same effect as the earlier example. Try it out – also try using different phrases in the quotes. The machine does not care what you put in the quotes. Spelling mistakes are no problem; it prints the words exactly as you type them. They can be complete nonsense, for all it cares. The point is, it knows what you want it to do.

Using a question mark instead of `PRINT` is a useful way of saving yourself some typing. You could go even further, and leave out the right-hand quotation mark. This does not worry the CPC, as it only needs the left-hand pair. However, leaving out quotes is a bad habit to get into. Later on you'll find cases where it's essential to close the quotes, so it's best to make a rule of it now.

Compound instructions

You don't have to give your computer instructions one at a time. If you want to print some text on the top line of the screen, try typing...

First Bytes

So, hexadecimal horrifies you? We have the solution in this section devoted to the novice machine code programmer.

Last issue you were left with three binary numbers for conversion to decimal: 00110011_2, 10100110_2, 00000100_2. The answers you should have got are as follows:

```
   0*128   0*64   0*4   1*2   1*1
        \     |     |    /    /
             00110011
           /    |     \
       1*32   1*16    0*8
```

```
00110011₂=0*128 + 0*64 + 1*32 + 1*16 + 0*8 + 0*4 + 1*2 + 1*1=51₁₀
10100110₂=1*128 + 0*64 + 1*32 + 0*16 + 0*8 + 1*4 + 1*2 + 0*1=166₁₀
00000100₂=0*128 + 0*64 + 0*32 + 0*16 + 0*8 + 1*4 + 0*2 + 0*1=4₁₀
```

Numeric conversion chart

Decimal	1	2	3	4	5	6	7	8	9	10
Binary	1	10	11	100	101	110	111	1000	1001	1010
Hexadecimal	1	2	3	4	5	6	7	8	9	A

Decimal	11	12	13	14	15	16	17
Binary	1011	1100	1101	1110	1111	10000	10001
Hexadecimal	B	C	D	E	F	10	11

Decimal to binary

```
204 / 2 = 102 remainder 0
102 / 2 =  51 remainder 0
 51 / 2 =  25 remainder 1
 25 / 2 =  12 remainder 1
 12 / 2 =   6 remainder 0
  6 / 2 =   3 remainder 0
  3 / 2 =   1 remainder 1
  1 / 2 =   0 remainder 1
```

-- labels for calculation
decimal number, base, least significant bit, most significant bit

Transforming decimal numbers to binary – or for that matter any other base – is done by dividing the decimal number successively by the base, until further division is impossible. Imagine you have the decimal number 204. To find the binary equivalent:

The result, reading from most significant bit to least significant bit, is 11001100_2. Try converting a few decimal numbers yourself. For instance, 127_{10}, 64_{10}, 6_{10} and 18_{10}.

Binary calculations

The arithmetic rules for binary numbers are quite straightforward: 0 + 0 = 0, 0 + 1 = 1, 1 + 0 = 1, 1 + 1 = 10. Addition is performed in an identical manner to decimal – just add columns from right to left:

```
decimal  2   binary  10   decimal  5   binary  0101
       + 1         + 01          + 7         + 0111
       = 3         = 11          =12         =01100
```

Take a look at the last binary addition; the rightmost column reads 1 + 1. The result (in binary) is 10. The carry, 1, is moved into the next column along – the same happens in decimal calculations.

Next issue we *shall* cover binary subtraction and with any luck should just scrape hexadecimal, in the mean time try the following binary-additions: 0100101 + 11011, 1111 + 0001 and 010110 + 101011.

```
CLS
PRINT "TOP LINE?"
```

...and pressing return again. As you can see, this doesn't work. Though the CPC does clear the screen when you type **CLS**, it immediately puts the *Ready* prompt on the top line. What's more, you then have to type the **PRINT** command on the next line, so that **TOP LINE?** is actually on line three of the screen. We want the Amstrad to execute both instructions at once. So, type in...

```
CLS:PRINT "TOP LINE?"
```

...and press return – but only after you've typed the whole thing. Now it works. Not only do the commands you've typed in get wiped off by the **CLS**, but also there is no *Ready* prompt until after **TOP LINE?** has printed up. The computer only puts the prompt up when it needs more instructions – it doesn't put a prompt up after the **CLS**, because it still has the **PRINT**ing to do.

Look again at the line of instructions that did the trick. The two commands are put on the same line, and separated by a colon. This is the standard way of giving two commands in one go. You can give the machine more than two commands at the same time, provided you put colons between them, and press the return key only after the last command. Try this...

```
CLS:PRINT "YOU'LL HAVE TO BE QUICK TO READ THIS":CLS:PRINT
"BUT YOU CAN TAKE YOUR TIME WITH THIS"
```

A series of instructions like this is called a compound command or multiple-statement line. There is no limit to the number of separate instructions a compound command can have – there is, however, a limit to how long the whole thing can be. The maximum length of a compound command – indeed, the length of any text – is measured in characters.

A character is a space, number, letter, or other symbol. Thus...

```
CLS: ?"only £1.5Ø"
```

...is 18 characters long. If you make it less, you're probably forgetting to count the spaces. Now, a compound command can only be 255 characters long – the computer just won't let you type any more than that.

As you will have noticed from the examples, a compound command can take more than one row of the screen. In fact, with a screen 4Ø characters wide it can take the best part of seven screen rows. There's no problem with this because as you type, the text just overflows into extra rows as it needs them. This overflowing, or wrapping as it is properly known, has no effect on the machine's understanding of the text itself. No matter how many rows of text you type before you press the return key, the computer still reads the whole thing as if it was all one long line.

Summary

Commands can be typed in upper or lower case, but must be spelt correctly.
Hitting the **return** (or enter) key tells the computer to carry out the commands you've typed in.
Compound commands are used to give the machine several instructions in one go. They are made by joining commands with colons, and pressing the return key after the last command only.
CLS clears the screen.
PRINT writes a piece of text to the screen. The text is put in quotes after the command itself.
MODE changes the number of characters that fit on one row of the screen – it also clears the screen.

Short Cuts

If converting from one base to another seems too much like hard work, then why not use Basic's in-built conversion commands. With commands like **BIN$** and **HEX$** flipping between bases couldn't be simpler.

The computer recognises binary numbers if they are preceded by **&X**. Hexadecimal numbers are distinguished by the **&** symbol. Thus things like **&DE**, **&C9**, **&X1001** and **&X10000110** are acceptable.

Changing a binary or hexadecimal number to decimal is achieved by, say, **PRINT &X01011** or **PRINT &FE**. Decimal to one of the other bases is a little tougher. First, decimal to binary:

```
PRINT BIN$((decimal number),8)
```

where **decimal number** is literally a decimal number: **PRINT BIN$((29),8)** for example. Decimal to hexadecimal is done in a similar way:

```
PRINT HEX$((decimal number),2)
```

The outer set of brackets and value outside the inside brackets need not be used. These tell the computer to print the result using a specified number of digits (eight in binary and two in hexadecimal).

Hackers Only

The box that caters for advanced programmers.

Last issue we published a routine that printed a number held in the A register as a two-digit hexadecimal. You were left with the problem of creating a similar routine to print a 16-bit number. Have you done it? Here's the solution anyway:

```
   LD HL,16-bit number
   LD A,H
   CALL routine
   LD A,L
   CALL routine
   RET
routine
```

After **routine** enter the source code that appeared in the last magazine.

Here's another handy routine; it prints the contents of the A register (at the current cursor position) as a three-digit decimal number. Entry conditions: A holds number to print. Exit conditions: AF, BC and DE corrupt. Length: 30 bytes. Code type: non relocatable.

```
                ORG &8000      ;location
16 64                LD D,100       ;prints hundreds
CD 0E 80             CALL prnt
16 0A                LD D,10        ;prints tens
CD 0E 80             CALL prnt
16 01                LD D,1         ;prints units
          prnt
0E 00                LD C,0         ;set count to zero
          loop
92                   SUB D          ;subtract power of ten
38 03                JR C,finish    ;if negative jump
0C                   INC C
18 FA                JR loop
          finish
82                   ADD A,D        ;make positive
F5                   PUSH AF        ;save number
79                   LD A,C
C6 30                ADD &30        ;convert to Ascii digit
CD 5A BB             CALL &BB5A     ;print
F1                   POP AF         ;restore number
C9                   RET
```

Basic Word-Processing:3

The third in a six part series by Bill Simister on how to create and use a word-processor entirely in Basic.

In the previous issue I promised to deal next with the routine for paging. This is contained in lines 400 and 440, using the variable A from line 90 of the Basic Word Control program.

Little Reminders

Line 400 is a REMinder line for yourself. In line 410 is the start of a **For/Next** loop - the **Next** is at line 440. The variable q is made equal to quality from 1 to 30. Which means that the lines between 410 and 440 will be repeated until those numbers are used up. I use 30 because many of my chapters run to twenty or more pages, and 30 covers that. It stops only when it reaches 30, or before that if the paper runs out. That is why in the first part you were told to cut off the paper at the end of printing, in order to re-thread it into the printer for numbering the pages. It will then print numbers until the printer complains with a squeak that there is no more paper.

Line 420 `PRINT #S,SPC(28);A:A=A+1` may look complex, but is fairly easy to grasp. `PRINT #S,` has already been explained, then comes `SPC(28);` which means print 28 spaces. **Spc** followed by a number in brackets is a short way of putting it. Note the comma between the `PRINT #S,` and `SPC`. Also note the semi-colon after the bracketed number. The A is what is to be printed, but it has no apostrophes around it, so the computer knows it must stand for something else. It does; A is a variable with the number 1. But having printed that the computer comes to :A=A+1, which because of the colon is a new order. It stores away the knowledge that A now equals 1+1=2.

Line 430 `PRINT #S, STRING$(31, CHR$(10)` makes 31 empty lines. `CHR$(10)` is a command to the computer to move down to the next line, and because it has been incorporated into a string of 31, it does this 31 times. Adding 31 to the two print commands in the lines 420 and 430, makes 33 - the number of lines to a page in the spacing we are using.

Next is in line 440, and returns the computer to line 410, the **For** line, in order to go through the whole routine again. But, this time A=2; 2 is printed, then made into 3, the spaced lines are added, and once again **Next** sends it back to the **For** line.

Line 450 is **Stop**, put there in case the paging has reached 30. for without it the computer would proceed to the next line, which, skipping the **Rem** line 900, is 1000, where the program would start again.

Space Heading

Line 1000 should be incorporated into any saving of the program which you do for future use; it includes the layout to be used for heading. In that line are further examples of how to use the **Spc** command. There are three commands, the first for the title, the second for the writer's name, and the third for which part or chapter it is. Those lines can be altered to suit your own requirements. When you have altered the words, then run it, and you can tell which of the numbers in the **Spc** commands have to be altered also.

Take careful note of the way the commas and semi-colons are used. They must not be changed or ignored, for each one triggers off an order

```
10 REM
20 REM BASIC WORD-PROCESSING
30 REM
60 KEY 129,"PRINT #S,":KEY 138,"CLS:LIST 1000-"+CHR$(13):KEY 128,"
RUN"+CHR$(13):KEY DEF 10,0,162:KEY 131,"WORDUSE1"
70 INK 0,23:INK 1,0:BORDER 23
80 MODE 2:WINDOW 7,72,1,25
90 S=0:A=1:REM PRINT #S,CHR$(27);"U";CHR$(1):PRINT #S,CHR$(27);"1"
;CHR$(6):PRINT #S,CHR$(27);"A";CHR$(24):PRINT #S,CHR$(27);"p";CHR$
(1):REM paging to 5 (incl)
100 REM PRINT #S,CHR$(27);"C";CHR$(33):PRINT #S,CHR$(27);"N";CHR$(
7):REM Skip perforations routine to make pages.
110 REM PRINT #S,CHR$(27);"j";CHR$(255):PRINT #S,CHR$(27);"j";CHR$
(255):WIDTH 66:GOTO 400:REM Routine to position the first number c
orrectly.
120 TROFF
130 WIDTH 66:GOTO 1000
400 REM routine to print page numbers
410 FOR q=1 TO 30
420 PRINT #S,SPC(28);A:A=A+1
430 PRINT #S,STRING$(31,CHR$(10))
440 NEXT
450 STOP
900 REM To start set leading edge of paper 1/8th. inch beyond the
    ribbon edge.
1000 PRINT #S,SPC(17);"BASIC WORD-PROCESSING":PRINT #S,SPC(21);"by
 W. Simister":PRINT #S,SPC(24);"Part One":PRINT #S
1010 PRINT #S,"    The trouble with  'word-processors'  is that th
ey are written by programmers who think in a complex manner.  They
 are difficult for a writer to understand:  he is impatient to get
 on  with  his"
1020 PRINT #S,"'piece', and cannot spare enough of his mind to dea
l with the     intricate and ambiguous instructions that often acc
ompany word    processors."
```

to the computer. A colon, for instance, means a separate order, whereas a semi-colon hangs things together. The final `PRINT #S,` means print a blank line, because it has nothing after it.

Printer Commands

Now we come to the explanation of the printer commands. Those with printers other than the DMP 2000, are advised to read on, for many of the instructions are similar in other machines.

Line 90, after the two variable commands, has a **Rem** which must remain in place while screen printing is being used, otherwise the computer will cause funny signals to appear on the screen.

The first order I use is to command the printer to print only in one direction. `PRINT #S,CHR$(27);"U";CHR$(1)`. In many cases it will be noted printer commands start, after the `PRINT #S,` with `CHR$(27)`. This is its signal for **Esc**. Then come a couple of semi-colons, with "U" between them. That U is the signal to the printer to be prepared to move into unidirectional printing. It is followed by `CHR$(1)` to turn it on. `CHR$(0)` would turn it off.

It must be emphasized here that particular attention should be paid to the letter between ;" ";. If it is a capital, then only a capital will do. Similarly with lower case letters. For instance: capital J triggers a one-shot forward move of the paper; lower case j triggers a one-shot backward move.

The second command is: `PRINT #S,CHR$(27);"1";CHR$(6)`. This "1" triggers the order to allow the number of spaces in `CHR$(6)` to be printed at the left-hand edge – thus putting the text in the centre of the sheet when its perforated edges are cut off.

Line Spacing

The next command: `PRINT #S,CHR$(27);"A";CHR$(24)` is the one that controls the line spacing. A in this place triggers it off, while the `CHR$(24)` controls how wide apart the lines are to be.

There are a number of commands to alter line spacing but I prefer this one because it is so easy to vary it. 24 gives double spacing (33 lines to the page), and 12 gives single spacing (66 lines to the page). In this "measurement" command the inch is divided into 72 parts, and the division of an inch you would normally put over the 72 to make a fraction is the number you use with that final CHR$. If you change this number then the command in line 100, which we will deal with later, must also be changed, or the routine to separate pages at the perforated lines would be upset.

The last command in line 90 is:`PRINT #S,CH$(27);"p"; CHR$(1)`. The p triggers off the order to use the proportional type face. The `CHR$(1)` turns it on: `CHR(0)` turns if off. This is one you can change easily to NLQ by using "x" instead of "p".

The final **Rem** in line 90 is for your own information only. It gives the final number in the paging brought about in line 110. It is put there because it is easy to alter when you have numbered the pages, and are replacing the **Rems** and changing the S=8 back to S=0 afterwards.

24-Pin Prize Printer



The latest addition to Epson's flottila, the fabulous *LQ-500* 24-pin printer, worth over £450, and up for grabs.

What do you have to do to win this gem? Just search for five commonly used printer-related words. Make that four. We have pencilled-in the first one for you. When you've uncovered the others simply write them on the back of a post card and send to: **Printer Comp, Amstrad Action, 4 Queen Street, Bath BA1 1EJ**. All entries must reach us by Wednesday, February 17th. Anything received after this date will be fed to Bob's pet rhino. The lucky winner will be picked from the large Future Publishing hat.

Note that there are four words for you to search for (not including PRINTER). They may run in any direction, including diagonal. Only dictionary-recognised words have been used (that means abbreviations like CPS, NLQ and CPC don't count).

24-pin printers are a new breed, real mean machines. Print quality is exceptional, they are fast and worth lots of pennies. We're giving away Epson's newest printer, the *LQ-500* - valued at over £450. A professional piece of equipment that would look good on anyone's desk. If you want one of these much sought-after beasts - and quite frankly, who doesn't - then make sure you enter the competition, today.

P	**R**	**I**	**N**	**T**	**E**	**R**	**S**	E
B	Q	M	E	O	Z	Y	L	N
U	E	I	Q	C	A	E	T	I
F	S	A	P	V	L	R	L	L
F	F	C	I	L	A	T	I	R
E	Y	N	A	T	E	X	B	E
R	P	R	G	Q	K	S	T	D
T	A	C	M	L	J	W	P	N
P	E	S	A	F	C	D	V	U



• Stored inside the easy-to-load cartridge is a new font

The LQ-500

Many dot-matrix printers use 9 pins arranged on the printhead. The *LQ-500* uses 24 fine pins. Due to the number of pins, printed text has a much neater, professional look. Another advantage of having extra pins is that the printhead need make only one pass to form the characters. The result: much faster printing. Indeed, according to Epson's figures, the *LQ-500* manages 150 characters per second in draft mode and an incredible 50 cps in letter-quality.

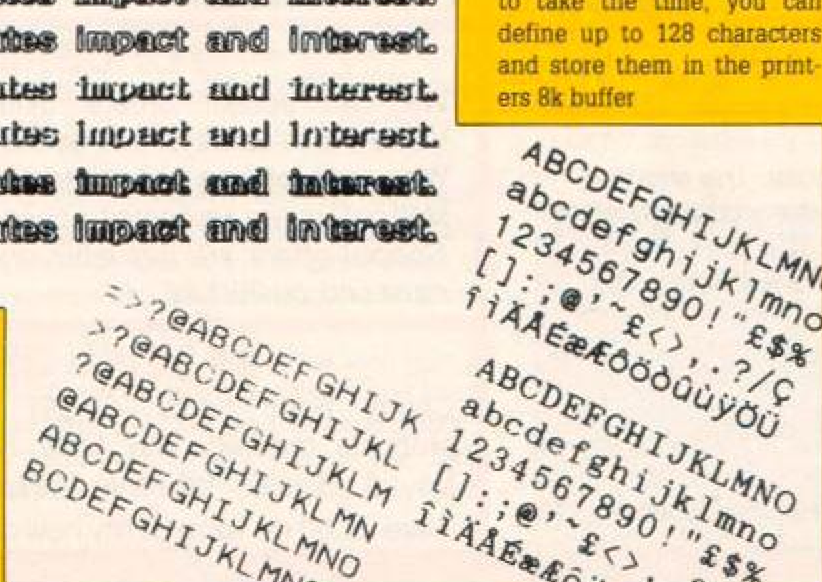
A choice of two fonts is available when printing in letter-quality, Roman and Sans Serif. A special high definition font is also included for draft. Typesize comes in three sizes: 10, 12 and 15 pitch (characters per inch). Add to that a variety of effects that can be performed on each font - such as double width, double height, condensed, italic, emphasized, underline, proportional sub- and superscript - and you have in excess of 100 typestyles.

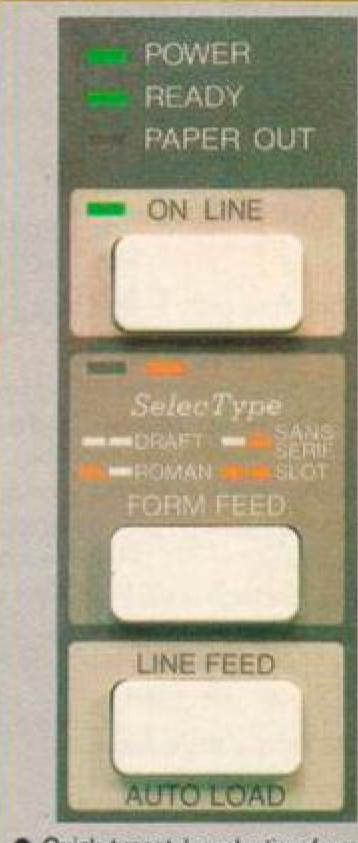
Print variety creates impact and interest.
Print variety creates impact and interest.
Print variety creates impact and interest.
Print variety creates impact and interest.
Print variety creates impact and interest.
Print variety creates impact and interest.

Settings and typestyles can be altered from simple push-button controls at the front of the printer. This means you won't have to spend hours digging in the manual to find the obscure control codes.

High-definition graphics are possible. And if you care to take the time, you can define up to 128 characters and store them in the printers 8k buffer

If you're not happy with that selection, then you can purchase extra fonts. Each font comes on a cartridge which slots easily into the printer. Currently the additional fonts include Courier, Prestige and Script.





• Quick typestyle selection from the control panel

Spread a Little Happiness

Richard Monteiro looks at the best spreadsheets for the CPC's – from the cheap, no frills, value for money options, to the comprehensive professional variety. There's also help for those who don't know what a spreadsheet is yet.

You've taken the plunge and started a business. With a radically new tasting cough-drop, you hope to make a mint. The burning question is how much you should charge for each drop, to make sure your new venture doesn't founder straight away.

If you charge too little you won't make enough money to cover your overheads and costs. Charge too much, and people will go elsewhere. So, you're faced with the age-old problem of deciding on the best price point. The sort of thing you'd jot down on a piece of paper to project your path to plentitude would be:

```
Number of cough-drops: 200,000
Purchase cost: £2,000
Marketing cost: £1,500
Retail price per unit: 0.05p
Total profit: (200,000 * 0.05) - (£2,000 + £1,500)
            : £6,500
```

Fast facts

A spreadsheet is best described as computerized pen, paper and calculator. Rather than keeping the year's cashflow or stock records on bits of paper, you can keep the lot on computer. In fact, most numeric tasks carried out on paper can be transferred to a spreadsheet. The obvious advantage is speed. Less obvious is the ability to project: to forecast what you can and can't spend in future months.

If you plump for a larger cough-drop order then unit price will fall and profits increase. However, there's the added risk of having to splash out extra cash. By choosing the investment you can afford, you can soon calculate your return.

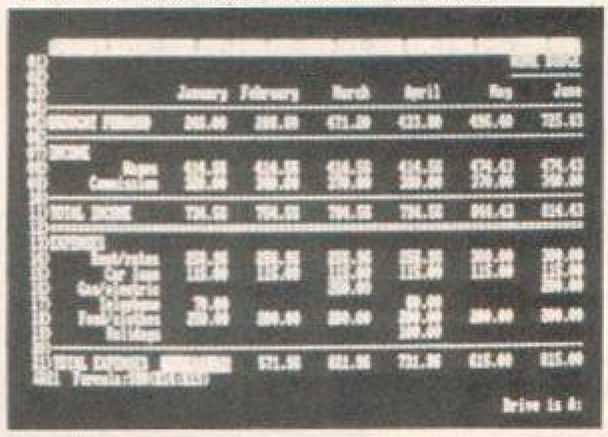
The calculation above is the spreadsheet's speciality. It does it quickly, effortlessly and doesn't make dirty marks on a note pad as it doesn't make mistakes. In essence the spreadsheet is an electronic (or computerised) note pad. The real beauty of a spreadsheet is that if at any time you decide to alter the production run, the new results can be displayed in very little time. All you need to do is enter the relevant information – such as, new unit price and number of units you intend purchasing.

Starter's orders

The cough-drop example is typical of a sheet's cost estimating ability. Of course, spreadsheets can also play other roles: simple accounts and personal organizers, for instance. It is possibly the accounting side of spreadsheets that make them so appealing; particularly to the home and small business user.

A spreadsheet – on screen – appears as blank space apart from a number for each row and letter for each column. You can imagine a sheet as having a series of vertical and horizontal lines. The lines are positioned such that they form numerous small boxes (commonly called cells). Each cell is referenced by a row number and column letter, and it is in these cells that actual data is stored.

Virtually anything can be placed in each cell. The cells displayed on screen represent a small fraction of the total available: spreadsheet data can stretch over many hundreds of columns and rows. In effect, the screen acts as a window on the whole sheet.



● The screen in relation to the whole spreadsheet

Sideways printing

Most 80-column printers allow you to print a maximum of 130 characters (in condensed mode). This can be restricting if your spreadsheet has several hundred data columns, each 10 or more character spaces wide.

It is possible to print the data from a large sheet in sections and later paste the bits together, or to use a rotation program.

A rotation program will take your data file, turn the contents through 90 degrees and print it out. This means you can print any size sheet on as much continuous stationery available. The one thing to be wary of is that the data must be in Ascii-file format. Most spreadsheets have options to do this.

The only suitable program for the job is Advantage's *Text-Processing Utilities* disk Costs £7, operates under CPM plus only and requires an Epson-code compatible printer. More from Advantage on 0242 222307.

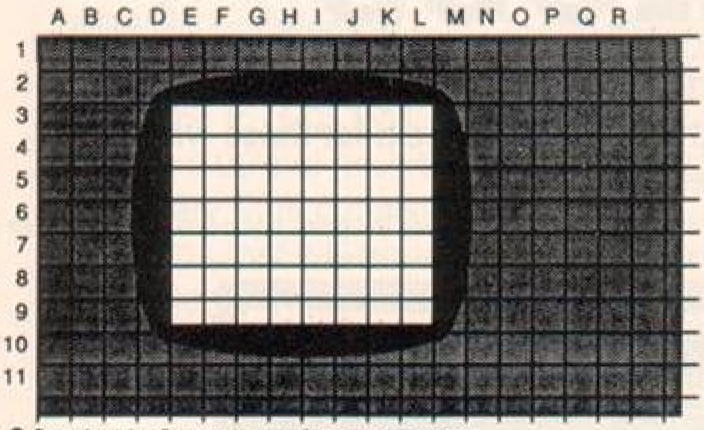
It is up to you how you organise a spreadsheet, but it is worth bearing in mind that standard 80 column printers won't be able to print more than 130 characters per line – and that's in condensed mode. This means

Double dealing

In the picture above the sum of all the totals is calculated from the formula SUM(G7:G14). This formula is placed in cell G15 – the sheet automatically works out the sum and places the result in G15. Say you wanted to find the totals for columns D and E. You could do it the long way; enter the appropriate formula in cells D15 and E15. An easier method would be to use the replicate or copy command. This allows you to copy, say, the formula from cell G15 and plonk it into cell D15. All references to column G would be changed to D. Replication is a powerful area of spreadsheets that enables large applications to be set up quickly.

sheets with lots of columns will be awkward to print. There are two solutions: buy an expensive large-carriage printer or buy software that rotates data through 90° before printing (check box on sideways print).

Every cell in a sheet is referred to by its co-ordinate – its column letter and row number – for example, B3, I9 and A1. By using the cursor keys you can move from cell to cell. There are three types of data that can be written into any cell: text – which is useful for labelling and generally making the sheet more comprehensible, numerals – for quantative and value representations and formulae – to tell the spreadsheet to work things out for you. Say you were positioned at B4 and you entered B1+B2+B3; the spreadsheet would calculate the formula and place the sum of cells B1, B2 and B3 in location B4.



● Sample sales figures as seen from a spreadsheet

GOOD NEWS	BAD NEWS
■ Spreadsheet can be configured to your taste. ■ Helpful on-screen prompting. ■ Powerful mathematical operations possible. ■ Data may be represented in graphical form.	■ Complex compared to standard spreadsheets. ■ Limited to 17k maximum data capacity.

Cracker

reviewed issue 9, Newstar Software, £49 disk, CPM plus only

Unlike other spreadsheets the *Cracker* can't be used immediately, that is data can't be entered straight away. The simple reason is that you have to create the sheet from scratch. The number of columns and rows must be decided, column widths specified and the default data for each cell must be worked out. If this seems overly complicated – you're right. But, you do have the potential to lay out the sheet to your exact specification.

Single letter commands are used to control and manipulate the sheet. And as commands are entered *Cracker* displays their meaning. This gives ample time to correct mistakes before hitting the enter key.

Most spreadsheets manage standard mathematical operators, trig functions and possibly even statistics. The *Cracker* is very hot for formulae: pi, permutations, random numbers, interpolations and just about anything else you've heard of.

Columns and rows may be sorted alphabetically or numerically which means the Cracker can be adopted as a database. It also proves powerful in applications requiring both calculation and sorting. At the end of the day data can be printed in either standard spreadsheet format or graphical format.

GOOD NEWS	BAD NEWS
■ Manual is easily digested. ■ Command keys are obvious and soon learnt.	■ 5,000 cells are quickly used up. ■ Poor formulae options.

A very flexible tool which beats other spreadsheets in terms of its abundance of mathematical functions, has decent on-screen prompts and good documentation. It's heavy going for the first time user and it limits you to 17k of data, but it has the potential to do impressive things.

First Calc

reviewed issue 24, Minerva Systems, £29.95 disk, CPM plus only

Very much the baby of the bunch: it offers less in terms of power, but promises a low-cost, gentle introduction.

First Calc really is easy to master. The command structure is immediately obvious – especially if you have used a spreadsheet before, and even if you haven't, the manual provides a competent guide. It's just a pity that the pages look so scrappy.

You have 52 columns by 99 rows (just over 5,000 cells) to play with – more than enough for home and small-business use. Even when you've outgrown *First Calc*, you can port data to a more powerful sheet as data is saved as text (Ascii) files.

The usual mathematical operations – addition (+), subtraction (-) and the like – can be performed on the sheet along with a handful of other commands: SUM (total), AVG (mean) and MAX (maximum value). No provision is made for logic, trigonometric or even logarithmic calculations. This is restricting, considering numbers up to $10^{\wedge 38}$ can be entered and calculations are carried out to 14 significant figures.

Although weak in certain areas, *First Calc* is ideal for the novice: it can store a reasonable amount of data and is relatively easy to use.

GOOD NEWS	BAD NEWS
■ Fast. ■ Figures can be represented, and printed, as bar charts. ■ Two parts of the spreadsheet can be viewed at once.	■ Only simple arithmetic functions available. ■ Can't replicate cell formulae.

MasterCalc 128

reviewed issue 4, Campbell Systems, £33 disk, 6128/expanded 464/664

This is one of the few spreadsheets that runs under the CPC's native operating system, Amsdos. It has the advantage of speed, and by making use of bank-switched memory it offers a maximum of 7000 cells (80 rows by 80 columns).

Before you start entering data you must choose sheet size – even though this can be altered later. The first column is wider than the others simply to accommodate headings. However, the width of any column can be adjusted to suit your needs.

MasterCalc allows you to reference cells relatively, as well as by row and column. This means you can refer, for instance, to the cell 5 columns to the right (d+5) or two rows above the current one (r-2). This is particularly handy for calculating compound interest or running totals. Surprisingly *MasterCalc* has poor arithmetic functions. It is only capable of stan-

Pauper's pick

If you like the idea of a spreadsheet, but don't like the thought of laying out so much cash, then *Mini Office II* by Database is a decent buy. It is basically a collection of budget business applications including word processor, database and spreadsheet. Although the spreadsheet isn't up to the standards of the others reviewed on these pages, it's fair value for money. £19.95 disk, £14.95 cassette.

Another
er *Spreadsheet*. Available from Wacci on disk for £6.50 (disk comes packed with other business software).

GOOD NEWS	BAD NEWS
■ Good range of mathematical formulae possible. ■ Exceptional graphical option. ■ Friendly and easy to use. ■ Other features like notepad and calculator are handy.	■ Slows down as more and more data is entered. ■ Memory seems to run out very quickly.

dard +, -, * and / operations, and it seems an odd restriction that only 99 formulae can exist on a sheet.

Particularly nice is the way in which you can split the screen in half and view two different areas of the sheet at the same time.

Most sheets let you replicate (copy) the same formula into other cells automatically. *Mastercalc* doesn't have this option, but has a form of shorthand that allows you to perform this operation almost as quickly.

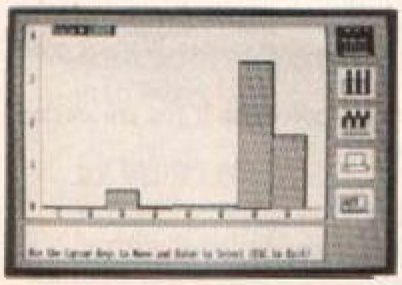
Mastercalc is good value for money, fast and has some handy fea tures usually reserved for the more exotic spreadsheets.

Matrix

reviewed issue 18, Audiogenic Software, £34.95 disk

Apart from standard sheet offerings, *Matrix* has a calculator allowing you to work out calculations involving standard operators, several are found on scientific calculators (like 3*COS(4)), and it even lets you toy with data held on the sheet (7+4*S2 for instance). Another interesting addition is the notepad. This works like a simple word-processor and is ideal for storing scraps of information regarding the spreadsheet – like the date the sheet was last updated and by whom.

The manual suggests there is no limit to the number of cells, however, in practise 100 columns by 100 rows is the most the memory will manage. Iif column widths are enlarged or the notepad used then the limit will be much lower.



Cells may be range referenced. This means you can perform a function on a block or group of cells. Useful for finding out the mean, maximum, minimum and sum of a row or column; it also cuts down the length of formulae.

GOOD NEWS	BAD NEWS
■ Virtual memory means you can have huge spreadsheets ■ Different parts of the spread can be seen simultaneously. ■ Powerful formulae. ■ Graphical output.	■ Slow due to constant disk access. ■ Column widths must all be the same size. ■ Little on-screen prompting.

A smattering of good mathematical features are incorporated into *Matrix* which put a number of more expensive sheets to shame.

Matrix has database-like properties in that it can sort data alphabetically or numerically – another feature which is generally only found on more up-market spreadsheets.

Being able to view data in graphical format really does push a spreadsheet into another class. *Matrix* has the ability of displaying – and subsequently printing – data in any of several graphical forms: pie charts, line graphs, and histograms to name a few.

ScratchPad Plus

reviewed issue 8, Caxton Software, £59.99 disk, CPM plus only

Unlike other spreadsheets, *ScratchPad* can cope with – in theory – unlimited-sized data files. Not because it takes up little memory space, but because it uses virtual memory. This involves storing the contents of a sheet on disk: in effect, using the disk drive as ram. The advantage is that files are restricted only to the amount of disk space (which is roughly 120k including *ScratchPad*). The trade-off is speed. Retrieving data from disk is much slower than from ram.

The manual is friendly, clear and concise. And is backed up by a useful prompt card. Sadly though, *ScratchPad* delivers few on-screen prompts which means you'll need to reach for the manual quite often.

Even though *ScratchPad* can handle large data files, it comes as a surprise that each sheet may only have a maximum 5,000 cells. More curious is the fact you can change column widths, but all the columns must be the same width, i.e. the same width as the longest you need.

Scratchpad has windowing facilities (several sections of the sheet can be viewed at the same time), but unlike other spreadsheets there is no limit to the number of windows that can be opened. Common sense should tell you that the screen is small, and too many windows just wouldn't be practical.

GOOD NEWS	BAD NEWS
■ Large number of cells possible. ■ Useful mathematical facilities. ■ Friendly, fast and flexible. ■ Good manual.	■ No graphical output ■ Limited by memory not disk space.

SuperCalc 2

reviewed issue 4, Amsoft/Sorcim, £49.95 disk, CPM plus only

This is Sorcim's original spreadsheet with an Amsoft label. It has all the features of the original – bar the price (that was £200 plus). Even Sorcim's documentation has been thrown in. Very good it is too. Plenty of examples, diagrams and a pull-out help sheet.

Q-Guide to ScratchPad Plus

Headway Computer Products, £9.95

The book, by Tony Jones, is meant as a companion to *ScratchPad's* own manual. It is designed to enable you to get the most from the spreadsheet in the shortest time – and it works. Brief, to the point and in many ways better than the manual.

Column widths can be set to your requirements. The format in which data is displayed may be altered: centred, left or right justified, and how many decimal places to add.

If you find you use a particular set of commands, it is possible to save the keystrokes to disk and execute them automatically at the touch of a few keys. This can save a lot of time.

A useful command is IF. This allows you to check a cell's contents and carry out an action depending on the value returned. Say you decide to give a 5% discount to all customers that order over £200 worth of goods. The formulae would run something like:

```
IF (D2<200,D2,D2+D2*(5/100))
```

SuperCalc 2 offers a substantial number of options, it is fast because it is memory resident, help prompts are always at hand, and the range of arithmetic operations outstanding. It could do with a graphical output function, but that's being picky.

Conclusion

A spreadsheet is only as good as you make it. You may never need to perform calculations involving trigonometry, statistics or logs. In which case *First Calc* or *MasterCalc 128* would be ideal. If you need a little extra power and storage space then *Matrix*, *SuperCalc 2* or *Scratchpad* would fit the bill. But if its unlimited data storage and unlimited layout possibilities, then the *Cracker* it must be.

Amsoft ☎ 0277 228888
Brentwood House, 169 Kings Rd, Brentwood, Essex

Campbell Systems ☎ 0378 77762
7 Station Rd, Epping, Essex, CM16 4HA

Caxton Software ☎ 01 3796502
10-14 Bedford St, Covent Garden, London, WC2E 9HE

Headway Computer Products ☎ 0252 333575
Headway House, Christy Estate, Ivy Rd, Aldershot, Hants, GU12 4TX

Matrix Software ☎ 0734 303663
12 Chiltern Enterprise Centre, Station Rd, Theale, Berkshire, RG7 4AA

Minerva Systems ☎ 0392 37756
69 Sidwell Street, Exeter, Devon, EX4 6PH

NewStar Software ☎ 0277 229509
Brentwood, Essex, CM14 4SG

Wacci ☎ 0603 812195
75 Greatfields Drive, Hillingdon, Uxbridge, Middlesex, UB8 3QN

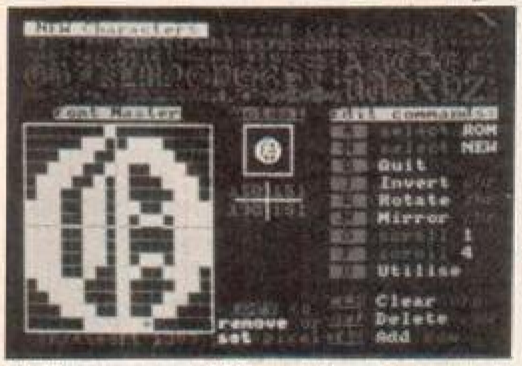
Fontastic Two

Pat McDonald investigates two programs that bring variety to your text

Font Master

Ramasoft, £8.50 tape, £11.50 disk

When you switch on your trusty CPC, a familiar message ripples across the screen. It's written using particular shapes for the characters; this is called a character set. Now, if you could change the character set, your machine will use the new set whenever it prints to the screen.



This may not seem very useful, until you realise that this new set need not contain just the usual characters. Printing the sequence "ABCDE" could quite easily print a spaceship of your own design. More than useful for games, eh.

Okay, how do you do it? The Amstrad CPC machines have a built in function called SYMBOL. This will build up your new character line by line. The difficulty lies in the fact that you have to painstakingly draw out new characters on graph paper.

Enough lecturing. This new product from Ramasoft enables you to do all the hard work on your machine, rather than paper. No big deal, you say. Listings in AA have done the same. What's so special about this?

Edit takes you to the core program; the actual character editing. Load and Save to recall and store character sets. Reverse Inks will let you edit in dark on light colours, as opposed to light on dark. Test lets you see the characters in all three modes. Print New will dump the set to a printer. Erase gets rid of any unwanted files, and Display will print all the new character sets with their associated ASCII values.

The whole approach of the program is to keep track of the built in (rom) character set as well as the new set. That way, you can see what type of character to edit next, rather than looking it up in the manual.

The core program lets you edit up to 2 x 2 (four) characters at the same time. This is moderately useful, but it would have have been nice to input the size of the matrix so you could edit huge graphic creations.

The Select rom option lets you pick up a character from the rom to edit: Select New does the same for your customised set. Quit takes you back to the front end. Invert, Rotate and Mirror option are all available, as are two scrolling modes. One lets you scroll just one character in any direction, the other scrolls the whole grid. All scrolling is by one pixel at a time, and is wrap around in nature. Clr will clear one quarter of the grid. Del will delete a row, and TAB will add one to a character. Utilise will add your creation to the character set.

Included in the package are two customised character sets. One is full of useful icons, the other is a gothic/schrift set for all Ye Olde adventure games etc. Also included is a program to reduce your new character set to a list of SYMBOL statements.

All screen layouts have been thoughtfully done. In use, the program behaves just as expected, and really is a pleasure to use. The documentation is adequate, but is printed in black ink on green paper. Without good lighting it's a difficult read.

I really do think this program is a darn good tool. If you are looking for a character generator, look no further.

Ramasoft ☎ 0763 43715
6 Stile Plantation, Royston, Herts, SG8 9HP

GOOD NEWS

- Very easy to use.
- Program has a professional feel lacking in other editors.
- Price is reasonable.

BAD NEWS

- Only 2 x 2 size of display.
- Physical quality of manual is not special.

Qualitas Font Pack

Seven Stars Publishing, £9.95 disc, £6.95 to upgrade

Some time ago, *Qualitas* was released, a program that enables you to change the typeface of your dot matrix printer to whatever you wanted. Some examples were included with this – now yet more weird and wonderful fonts have been released.

The different packs are three in number. The *Display Font Pack* features ten fonts. Five have full alphabets, and so can be used for all text. These are Chelsea, Minstrel, Robot, Shamrock and Xenon. The others are Headline fonts, and only have capitals. They can easily be set into boxes for a striking title or slogan. Headline fonts are Robot Bold, York Bold, York Inverse, York Outline and – my favourite – York Shadow. All these fonts look very impressive, but some are tricky to read, notably Minstrel (Schrift or Gothic) and Robot (as used on your cheque book).

The other two packs can be discussed together. These feature 16 different font variations of two basic fonts, Pica (standard 10 characters per inch, 80 characters per line max) and Clarion (which is a very ummm... alternative, yes alternative font. Looks good!)

Okay, the fonts are Danish, English, French, German, Italian, Spanish and Swedish, plus a "Pi" font, which contains all the Greek characters and more. These eight variations come in Roman and Italic Versions.

These different variations are fairly comprehensive, I suppose. The Clarion pack is especially nice, and will ensure that your documents look just that little bit different than others.

As for the pica font... I think most printers will already do about seventy per cent of what this offers. Still, if your printer doesn't have Pica it could be a worthwhile investment.

Bear in mind while I'm rambling on, that you will need *Qualitas* to utilise these fonts. An eight bit printer port is also strongly recommended, otherwise the top line of all your letters will be cut off. As for word processors, *Tasword 6128* is clearly the best choice, because then you can use that extra 64k of memory. Both standard *Tasword* and *Protext* work well enough, though.

One genuine possibility if you don't have either the 8 bit printer port or the inclination to get one is to use the built in editor from *Qualitas* to cut down the characters to the proper level. This will take a fair amount of time and the end result will not be quite as pretty as the standard font, but its the only solution that I can think of.

Personally, I think that the display pack when used with an 8 bit port looks excellent. *Qualitas* drives your dot matrix to its limit at about 240 pixels per inch. These fonts really do show off your printed material.

Clarion is a very good font, as any one who has bought *Qualitas* can testify to. At least one book has been typeset in it, which is quite an accomplishment for a home computer package.

Pica, on the other hand, will probably appeal to those who know why they need a complete Pica package. I suppose plenty of clerical orientated people might be interested, but me, I'll just let my printer switch on its own version.

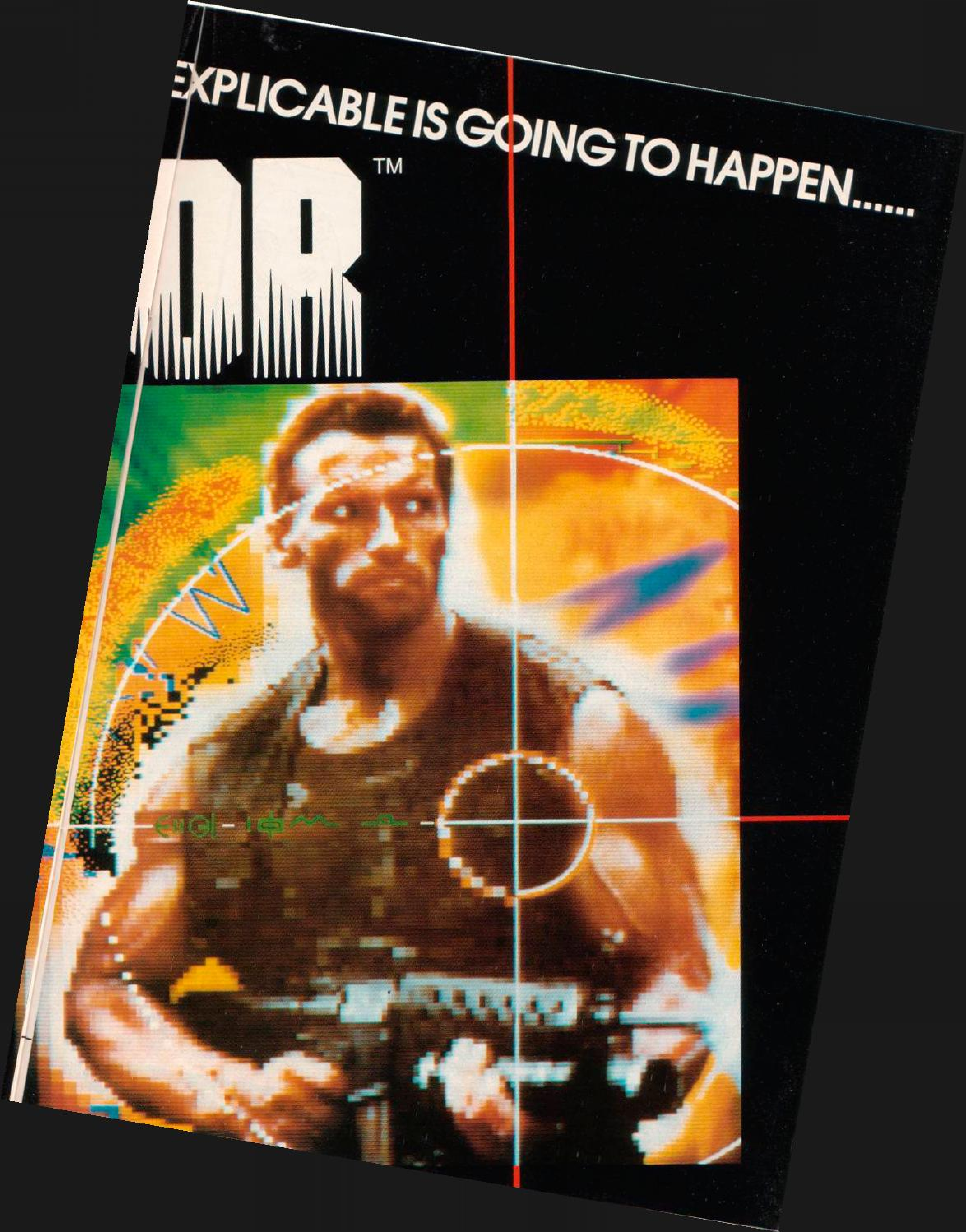
Seven Stars Publishing ☎ 06284 3445
34 Squirrel Rise, Marlow, Bucks, SL7 3PN

GOOD NEWS

- Display fonts are very attractive and impressive.
- Clarion is a distinctive font which will attract attention.
- Price of the fonts is about right.

BAD NEWS

- 8-bit printer port necessary to bring out the best in the fonts.
- Qualitas also necessary.



EXPLICABLE IS GOING TO HAPPEN......
OR™

ROMANTIC ROBOT *present*

1988 – THE YEAR OF THE ROBOT



Q: WELL, I'VE HEARD OF THE YEARS OF THE CAT, PIG, AND EVEN DRAGON – BUT THE YEAR OF THE ROBOT?

A: Absolutely! And ROMANTIC ROBOT wish to make 1988 a truly memorable year (if not us, who will?). To kick off with, there is an INTRODUCTORY OFFER OF **£29.88** ON RODOS, plus a truly unique 1988 NEW YEAR MAIL ORDER PRICE OF MULTIFACE TWO – **£39.88!**

Q: I LOVE SALES. BUT WHAT'S SO LIKEABLE ABOUT RODOS and MULTIFACE?

A: RODOS is too powerful and complex to be summed up here – please send a SAE for full info. MULTIFACE is (simply) a MUST for ANY CPC owner: it can copy and change programs as you wish.



Q: OH, DO I NEED TO DO ANY PROGRAMMING TO MAKE BACK-UPS?

A: NO! – NOT with the MULTIFACE TWO – it is in fact the ONLY product on the market which works FULLY AUTOMATICALLY. You LOAD any program as usual, RUN it for as long as you like and when you wish to make a copy you just press the MULTIFACE's red button and follow the menu and on-screen instructions.

Q: HOW DOES IT WORK THEN? IS IT EASY? USER-FRIENDLY? ERROR-TRAPPED? IDIOT PROOF? GUARANTEED?

A: YES! It works a treat and it could not be easier. The menu gives four basic options – to **SAVE** a program, to **RETURN** to continue it, to **JUMP** (say to your own routines – invaluable for hackers) and **TOOL** to access the MULTI-TOOLKIT set of built-in utilities. For example pressing **S** to **SAVE** will first allow you to **NAME** the back-up and then let you save a **PROGRAM** or just a **SCREEN** to **TAPE** or **DISK**. Before the saving itself, MULTIFACE compresses the program so that it takes the least amount of space on tape/disk and will re-load as quickly as possible. Once a program is saved, you can **RETURN** or **JUMP**, use the **TOOLKIT** to change it, **SAVE** it again, etc.

Q: DON'T YOU CORRUPT THE SCREEN WITH YOUR MENU, INSTRUCTIONS, PULL DOWN WINDOWS, ETC.?

A: NO. MULTIFACE TWO has its own memory (8K ROM & 8K RAM) and a lot more hardware – thus when it finishes its job or when you re-load your back-ups, everything is **FULLY** and **AUTOMATICALLY** restored: screen modes, colours, windows, etc. This is essential and NO OTHER DEVICE CAN DO IT!

Q: OK, SO MULTIFACE CAN COPY FROM TAPE TO DISC, BUT CAN IT DO TAPE TO TAPE OR DISC TO DISC OR DISC TO TAPE?

A: Of course it can. MULTIFACE saves either to tape or disc and it saves whatever happens to be in the computer at that time – no matter how you loaded it in.

Q: SO FAR SO GOOD. BUT CAN'T I DO ALL THIS WITHOUT THE MULTIFACE?

A: ABSOLUTELY NOT! First, you need a hardware device, a "magic box", to be able to stop and copy programs AT ANY STAGE – be it upon loading, half-way through the game, etc. Tape/disc copiers can only try to copy programs BEFORE they load: if there are unorthodox loaders, speedlocks, protections against copying, etc., you'll end up with a problem – but not with a back-up. Also, with MULTIFACE you can poke infinite lives, ammunition, etc. – and then SAVE.

Q: MULTIFACE IS NOT THE ONLY 'MAGIC BOX' ON THE MARKET – WHY SHOULD I BUY IT MORE THAN ANYTHING ELSE?

A: There are four devices on the market. Action Reply by Datel Electronics, Disc Wizard by Evesham Micros, Mirage Imager and MULTIFACE TWO. Each manufacturer would naturally argue his product is the best buy – fortunately (for you and us), MICRONET recently compared all four units and MULTIFACE TWO came out the best in literally all respects: the most successful one – 100%!, the ONLY AUTOMATIC ONE, the FASTEST ONE both in LOADING *AND* SAVING time, the one taking the LEAST ROOM when saving – and you still get a couple of EXTRAS: a RESET button and an extensive and unique MULTI-TOOLKIT.

Q: MULTIFACE IS IT! THE RIGHT THING IN THE RIGHT TIME! IF ONLY IT PAID FOR ITSELF...

A: But it does! By the time you buy 8 programs on tape instead of disc, you will have saved £40 – the cost of the MULTIFACE. The money you save on further programs is all yours

... **MULTIFACE – worth every penny, saves you pounds!**

Romantic RObot Disc Operating System

Just one ROM will turn your CPC into a professional set-up: With RODOS you can attach additional disc drives – 40/80 track, single/double sided and store more than 800k per disc.

RODOS NEW

But RODOS is in fact much more than a fast and perfect DOS. RODOS also gives you RANDOM ACCESS, PRINTER BUFFER, full ROM manager, SILICON DISC, altogether 54 new bar commands, enormous power – all this and much more for £29.88 only!

multiface two

NEW YEAR MAIL ORDER SALE PRICE £ 39.88

RODOS

INTRODUCTORY OFFER-ON ROM £ 29.88

The special price of £39.88 applies strictly to mail orders received with the coupon below before the 29th February 1988.

Tape-to-disk at the touch of a button. Ridiculous, you may say, but it works every time. *Multiface* can stop any program in its tracks and save the program from memory to either tape or disk. It's completely fool-proof. Similar products have had problems with screen size, colour and even sound; *Multiface* can handle all these without a second thought.

That alone would have satisfied many people, but Romantic Robot has gone one step further, incorporating a memory editor. No program is safe with this: everything is out in the open, including the Z80 registers, CRTC data and any part of memory.

Don't be fooled into thinking this will result in mass piracy, however. The *Multiface* unit itself must be plugged into your Amstrad to allow reloading of a program it saved.

Multiface II must be the cleverest hardware device at present – a necessity for disk owners who thought they were stuck with loading from tape every time.

AMSTRAD ACTION JANUARY 1987

THE YEAR OF THE ROBOT · BE PART OF IT

I order MULTIFACE 2 (£39.88)☐/ RODOS (£29.88)☐ plus p&p UK £1, Europe £2, Overseas £3

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Name & address ....

ROMANTIC ROBOT UK LTD 15 Hayland Close London NW9 0LH 24 hrs 01-200 8870

The Three Bears

School Software, £19.95 disk only

One of the greatest paradoxes of the home computer scene is the really pathetic quality and quantity of most educational software. Often, parents and teachers alike are so grateful for finding a program that supposedly helps them to educate. Then they find that the child either cannot understand the plot of the game or becomes totally frustrated with trying to solve the problems set before them, generally because they have not mastered a keyboard.

Okay, now for the good news, here is a piece of worthwhile educational software. Its aimed at the 5-10 age range. As time goes on, we can but hope for more and more of the same.



The plot of the game is very simple. One day, while walking along a path to visit the three bears, you discover that junior has got lost in the forest. You must try and recue him. That's right, recue. Okay, never mind the odd typos. School software say that they have been cured in the production version.

I had better not reveal any more of the plot. Suffice to say that it contains the usual assortment of Olde Worlde fairy tale characters. No chainsaw wielding grannies or mucus covered bogie men so beloved of today's crop of minor citizens.

Right, now down to the mechanics of the game. This involves the player either pressing the spacebar or entering small words. A prompt is always given and, with a little help, most children should pick up what its all about very quickly.

The screen displays a simple map, with several locations and paths leading between them. You're told were you are, you type in your destination and then move there. In other words, its a simple adventure game. As you travel between places, you may be asked to fill in missing letters from a displayed word. You may also be asked simple questions and asked to enter certain passwords to get further on in the adventure.

Okay, what does our young hypothetical player get for his pains? Well, for a start, the program begins with a short musical ditty. After this, all writing is in big, bold and colourful writing. The other inhabitants of this fantasy world are plentiful and, for the most part, depicted on screen.



What really will make the whole experience worthwhile for most small aged humans are the delightful pictures. Although not animated, these really are superb, cartoon-like efforts. Very nice, they lift the whole program to a high level. Strange to consider that the best selling points of arcade games - good graphics, good sound, easy input, and most of all a decent plot - should have such such relevance in educational software.

The only documentation you receive is basically advertising and the solution to the game. I must say that a manual is probably unnecessary as the game is easily worked out.

Twenty pounds is simply too much for what you get. Most people, regrettably, will never even see this software if it remains priced at that level. *The Three Bears* is good, but not worth £20.

● **Pat McDonald**

School Software ☎ 010 353 6145399
Meadowvale Estate, Raheen, Limerick, Ireland

GOOD NEWS	BAD NEWS
■ Program is indeed, quite educational. ■ User Friendly. ■ Great Graphics, very enjoyable.	■ Price is high.

Ultra Sound

Siren Software, £14.99 disk only

Siren Software have been releasing a steady stream of software over the past year – many of these having originated from France. Indeed, *Ultra Sound* is the latest product to have swum the seas to adopt the Siren sticker.

Ultrasound is basically a sound digitizer and sound effects generator. It is split into four parts: Ultrasound – sound digitizer, Magicsound (or Soft-Talk) – software speech program, Synthesoft – turns the computer keyboard into a pseudo synthesizer, Soundsoft – sound effects generator.

From Ultrasound any sound (your voice or music, say) can be digitized. Put simply, this means the computer will store (in its memory) the sounds it picks up from the cassette deck. Once the sound is in memory – of which there may roughly be one minutes worth – it may be played back at a range of speeds, edited, or saved and used later from within your own programs. Editing features include block copy, move and delete.

Remember *Speech!* from Superior Software (reviewed issue 15)? Well, it allowed you to enter sentences in plain English into the computer, and the computer attempted to speak them back – much like the various plug-in speech synthesizers. Magicsound is much like this. It is possible to use this software text-to-speech facility from your own programs via three extra commands: `|SAY,"word"` simply translates whatever is inbetween quotes into speech, `|CENTRE` puts a space before and after the spoken word or sentence, `|SPEED` outputs speech at a chosen rate.

Synthesoft turns your keyboard into an electronic synthesizer. Octave, noise, sustain and tone level can all be altered.

If you need to create sound effects, then Soundsoft will go a long way to help. This program lets you manipulate the CPC's sound chip to the full. All the parameters that make up a sound may be modified and tested – and if you come up with some interesting sounds that you wish to keep, these may be saved – which includes pitch, tone, volume, duration, volume envelopes and tone envelopes.

All the ingredients for making astounding sound effects are present within *Ultrasound*. Great fun can be had digitizing sound, editing and then playing it back. The sound effect generator is handy for creating weird and wonderful noises. Even the text-to-speech facility has potential in games and educational software. But what really makes *Ultrasound* shine is that the sounds you create can be used easily from your own programs.

● **Richard Monteiro**

Siren Software ☎ 061 228 1831
2-4 Oxford Road, Manchester, M1 5QE

GOOD NEWS	BAD NEWS
■ Good range of editing options on sampled sounds. ■ Most of the sounds created can be incorporated into your own software ■ The text-to-speech option is excellent considering no hardware is involved.	■ Disk only. ■ Musical compositions can't be created.

HOT TIPS

Have you special tricks and tactics with serious software and hardware? Share them with other Amstrad addicts. Send them to "Hot Tips", Amstrad Action, 4 Queen Street, Bath, BA1 1EJ. Remember the best tip each month gets £20.

● Simple sprites

Have you ever had difficulty in designing sprites using the package supplied with *Laser Basic*? Well, fear not. Just go to the sprite design screen, press ESC twice and type `MEMORY 24400: SAVE "screen.scr",B,&C000,&4000: MEMORY 22000` <enter>.

Run the *Art Studio* or a similar design program that accepts standard Amstrad screens. Load `SCREEN.SCR` and then simply design the sprites in the large box located at the bottom of the screen. Make sure to save the screen before leaving the art package. Run the *Laser Basic* sprite generator, press esc twice and type `MEMORY 24400: LOAD"screen.scr",&C000: MEMORY 22000: CONT` <enter>. And there you have it, simple sprites.

Alex Knowles, Manchester

● Problem solved

Recently I had the misfortune of having to find the standard deviation of several large lists of numbers as my calculator had gone astray. I wrote the following routine on my CPC, and have found it extremely useful. And lit sure beats performing sigma(x-x)2/n on half a dozen 100-plus number lists with pen and paper.

```
10 INPUT"No of samples ",n:DIM r(n):FOR i=1 TO n:INPUT r(i)
20 a=a+r(i):NEXT:m=a/n:FOR f=1 TO n:q=ABS((r(f)-m)^2):z=z+q
30 NEXT:b=z/n:PRINT"Standard deviation: ";b
```

Ian Montgomerie, North Yorkshire

● Crashes no more

Have you noticed that many recently released programs check to see if a *Multiface* is present, and crash if one is? To overcome this place a switch in series with the IORQ line (pin 31). Before loading a program move the switch to the off position. Once loaded flick the switch and press the magic red button. Works a treat. It is also very useful for turning off any expansion roms you may have.

Alex Knowles, Manchester

Note: this procedure should only be attempted if you have a good knowledge of the hardware you are fiddling with, because it will invalidate your guarantee.

PROBLEM ATTIC

RpM goes on his latest problem solving escapade. If your CPC's in danger, if you need help, then perhaps you can contact the AA team.

● Pools predictor?

Currently I am writing a program to update and save to disk, information regarding football teams. I am trying to get the program to write the name of the team and the number of times they have won, lost and tied. My problem is storing all this data on disk and being able to update it at any time.

Mark Gould, Herefordshire

```
oteams=2
nm$(1)="Dolphins"        nm$(2)="Giants"
win(1)=4                 win(2)=3
los(1)=2                 los(2)=1
drw(1)=0                 drw(2)=2
```

*First decide how many teams you want. Place this number in a variable – **noteams** in this example. Then place all the team names and results in arrays. For example,*

Make sure you *GOSUB 100* (the save routine). All the data will be saved in an Ascii file. Whenever you decide to view the results and update them simply *GOSUB 10* (load routine). You may then alter the results,

win(2)=win(2)+1

for example. And then save them out again.]v

```
10 ' load routine
20 OPENIN"teams":INPUT #9,noteams
30 FOR t=1 TO noteams:INPUT #9,nm$(t),win(t),los(t),drw(t)
40 PRINT nm$(t),win(t),los(t),drw(t):NEXT:CLOSEIN
50 RETURN
100 ' save routine
110 OPENOUT"teams":PRINT #9,noteams
120 FOR t=1 TO noteams:PRINT #9,nm$(t):PRINT #9,win(t)
130 PRINT #9,los(t):PRINT #9,drw(t):NEXT:CLOSEOUT
130 RETURN
```

● No entry

The other day I was browsing through the manual when I came across an article describing how to put a password on a CPM plus disk. I tried something similar to what the book suggested and entered:

SET [password=on]
SET *.* [protect=on]
SET *.* [password=SI1]

Now, when I boot CPM, everything works fine until I try to access any of the files. I just get errors. What can I do to return my disk to normal?

Simon Payne, Blackpool

Relocating Basic

Here are a few pokes which may be of use:

464 users – &AE81 and &AE82 set start address of Basic
&AE7B and &AE7C set value of HIMEM

664/6128 users – &AE64 and &AE65 set start address of Basic
&AE5E and &AE5F set value of HIMEM

To relocate Basic simply subtract one from the required address and poke the values directly. For instance:

POKE &AE81,&FF:POKE &AE82,&7F – 464

POKE &AE64,&FF:POKE &AE65,&7F – 664/6128

This will set the start address of Basic to &8000.

M Baldwin, South Yorkshire

Submit to sender

Anyone who has ever toyed with SUBMIT.COM under CPM 2.2 will know that it is a very good utility for copying batches of files. However, you may have noticed that when writing .SUB files, it is not possible to include normal CPM statements like STAT *.COM $R/O. This is indeed a useful statement to put in any .SUB file, particularly if you're copying files from one disk to another. The reason SUBMIT rejects the above statement is because of the presence of the dollar sign ($) in the command. You should know that the dollar sign instructs SUBMIT to extract a parameter from the CPM line.

In the above case, this would be ridiculous for SUBMIT to assume this fact, but I have stumbled on the solution. If you replace STAT *.COM $R/O with STAT *.COM 4R/O you will find that SUBMIT will now accept it and STAT will perform the command as usual (that is, as if there were a $ rather than a 4).

I don't know why STAT recognises the 4 in preference to any other character, but I expect it is due to the fact that it shares the key with the dollar sign.

Allen Reavie, Northern Ireland

£20 is on the way to you, Allen.

Rear-window treatment

A common fault on CPC 464s and 664s seems to be fractured etching on the keyboard membranes. I have successfully repaired my 664 by painting over the fracture with car heated-rear-window repair paint. This is probably a job for somebody who knows what they are doing, but is certainly worthwhile and is much cheaper than taking it to a repair shop.

H Jones, London

Point taken

If you can't be bothered to work out the binary of a floating point number, do the following:

```
s=floating point number
PRINT BIN$(PEEK(@s),8);" ";BIN$(PEEK(@s+1),8);BIN$
(PEEK(@s+2),8);BIN$(PEEK(@s+4),8)
```

You should have the binary representation. Use HEX$ rather than BIN$ if you want to see what it looks like in memory. Conversely, if you have the five bytes of a floating point number, and want to find out what it is, then try:

```
s=0:POKE @s,n1:POKE @s+1,n2:POKE @s+2,n3:POKE @s+3,n4:
POKE @s+4,n5:PRINT s
```

Phillip Connor, Coventry

You have made a mess, Simon. It would have been best if you tried the password protection on one file rather than all of them. If you hadn't protected the *SET* file, you would have been able to return the files to normal. All is not lost however. Simply type in and run the listing below; it removes password protection from all files.

```
1 ' CPM password protection remover
10 DATA 11,00,90,CD,9B,BC,2A,42,BE,11,0F,00,19,7E,32
20 DATA 27,80,32,59,80,11,07,00,19,7E,32,23,80,32,55
30 DATA 80,21,00,40,16,00,1E,00,0E,C1,DF,73,80,21,00
40 DATA 42,0C,DF,73,80,21,00,44,0C,DF,73,80,21,00,46
50 DATA 0C,DF,73,80,21,00,40,11,20,00,06,40,7E,FE,10
60 DATA CC,79,80,19,10,F7,21,00,40,16,00,1E,00,0E,C1
70 DATA DF,76,80,21,00,42,0C,DF,76,80,21,00,44,0C,DF
80 DATA 76,80,21,00,46,0C,DF,76,80,C9,3C,C0,07,3F,C0
90 DATA 07,36,E5,C9,00,00,00,00,00
100 FOR T=&8000 TO &8080:READ A$:V=VAL("&"+A$)
110 CK=CK+V:POKE T,V:NEXT T
120 IF CK<>10014 THEN PRINT "DATA ERROR":END
130 PRINT "INSERT DISK WITH PASSWORDS TO REMOVE"
140 PRINT "PRESS ANY KEY...":CALL &BB18:CALL &8000
150 PRINT "ALL DONE"
```

Starter's orders

How do you save a file to tape or disk?
Colin Bicknell, Kent

If you type in a Basic program and wish to save it to disk simply enter the command *SAVE "filename"*. The name of the file, situated between the quotes, can be anything you wish (up to eight characters, that is, and consisting of only numbers or letters). Binary files are a little tougher:

SAVE "filename", B, location, length
location - refers to the position in memory to start saving from.
length - the amount of memory you wish to save.

For example, to save the screen try *SAVE "screen",B,&C000,&4000*.

Saving to tape is similar. If your Amstrad has a disk drive connected enter the command *|TAPE*. Now follow the same procedure for saving to disk. The only difference is that the filename may be up to 16 characters in length rather than eight.

Down in the dumps

Please can you tell me if there is any way of getting a text dump of the screen in draft quality? This is very important as I am hoping to do my computer studies project on my 6128 and DMP 2000.
Irfan Akram, Manor Park, London

```
10 md=PEEK(&B7C3):at=2^(md+1)*10
20 FOR y=1 TO 25:FOR x=1 TO at:LOCATE x,y
30 a$=COPYCHR$(#0)
35 IF a$="" THEN a$=" "
40 IF ASC(a$)>127 OR ASC(a$)<32 THEN a$=" "
50 PRINT #8,a$;:NEXT x:PRINT #8:NEXT y
```

The small Basic routine above sends text from the screen to the printer. It can be inserted within your own program, but only works on 664 and 6128 machines.

ACTION TEST

There is a lot of software around at the moment, but most of it isn't likely to set your pulse racing. What WILL set your adrenalin pumping is a couple of runs down a wall of ice at St. Moritz.

The game that can provide such thrill packed danger is *Bobsleigh* from Digital Integration. It's a combination of high speed action and bank balancing strategy. Your quest is to win the Olympic gold at Calgary, which will take lots of time and absorbing effort.

If that isn't your cup of tea then there's non-stop blasting in *Gryzor*, fantasy-wargame struggles in *Sorcerer Lord*, and a good look at the latest batch of coin-op conversions including *Rampage*, *Buggy Boy* and *Super Hang-On*.

GRYZOR

Ocean, £8.95 cass, £14.95 disk, joystick or keys

AA RAVE

The Durrs have invaded Earth and set up base in an obscure part of the planet. They want to alter the atmosphere and weather so that there is another ice age and they can rule the world. You, Lance Gryzor, have been volunteered to destroy the Atmosphere Processing Plant.

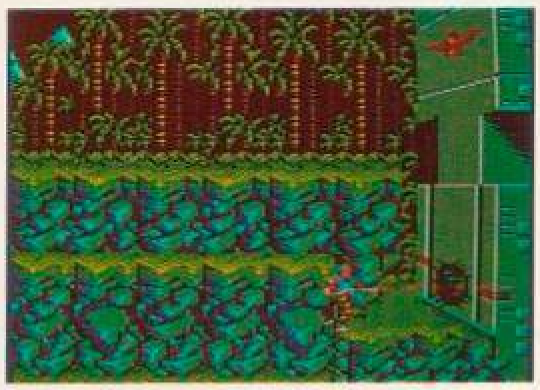
There are three stages to the game and each one is split into smaller sections. The three stages are: the enemy stronghold, the Atmosphere Processor and the mother ship. The first section is similar to *Freddy Hardest* and *Game Over* with horizontal flick screen graphics. In this section you must reach the alien stronghold and blast your way inside. The landscape is filled with enemy soldiers and gun emplacements that are out to kill you.

There are weapon containers to be found and these contain one of four types of weapon: rapid fire, scatter gun, laser gun and barrier. Rapid fire increases the rate at which bullets leave your gun, scatter gun fires three bullets at a time, the laser is a more destructive weapon and the barrier makes you invulnerable for a time. Bonus lives are not awarded for points scored, but one is awarded after completing each stage of the game.



The end of stage one, just blast a hole in the wall for stage two.

The alien stronghold is made up of corridors which are blocked off by forcefields. To de-activate these you must shoot a switch at the end of the tunnel many times. The alien defences and aliens are in the meantime trying to destroy you. After passing through a few of these barriers you reach the control room which is well defended.



After destroying the control room you go on to the next stage which is a vertical flick screen game of ledges and platforms. It plays very similarly to the horizontal flick screen stage. After this you must destroy the Atmosphere Processor and then it's time for the assault on the mother ship. Inside the mother ship is another network of tunnels and barriers.

You can assume a variety of poses with your weapon to help to destroy the enemy. You can shoot diagonally up and down, to the left and right, straight up and lying down on the two flick screen stages. In the tunnels you can crouch down, rather than lie down, to shoot at different heights.

Sound effects are simply explosions and firing sounds, but they are good. A bonus for all 128K owners is that there is an option for a continuous tune rather than the sound effects. The game loads in one go for those of you with 128K and the rest have to settle for multi-load.

At first this appears to be just a shoot-em-up, but the different weapons and angles that you can shoot at means that a simple strategy element is involved. One thing that is annoying is that the enemy bullets are the same colour as yours and often you don't realise that there's a bullet coming at you until it's too late. This is a very good arcade conversion that has an addictive quality that will keep you coming back for more. **GBH**

SECOND OPINION

The same team that produced Renegade *are responsible for this one, so as you would expect it's got excellent graphics. The gameplay doesn't win any points for originality, but the different weapons and types of stage provide variety. It won't last you that long in its challenge, but it's a fun blast for a few days.* **BW**

GREEN SCREEN VIEW

The enemy soldiers are almost invisible in green.

The Verdict

GRAPHICS 83%
- □ Colourful and well animated characters.
- ■ Enemies sometimes merge with the background (especially on green screen).

SONICS 64%
- □ Continuous tune for 128K machines.
- ■ Not much sound for the rest.

GRAB FACTOR 87%
- □ Once you start playing you just won't want to stop.
- ■ A bit difficult to begin with.

STAYING POWER 76%
- □ Lots of screens to keep you occupied.
- ■ Once you complete it you probably won't play it again.

AA RATING 82%
- □ One of the best arcade conversions in recent months.

FIRST DAY TARGET SCORE
50,000 points

BOBSLEIGH

Digital Integration, £9.95 cass, £14.95 disk, joystick or keys

In case anyone out there hadn't noticed, winter has begun. Winter means snow, frozen toes and winter sporting games. This is the first out-and-out bobsleigh game, featuring fast moving graphics and a strategy element in your attempts to win Olympic gold.

As with most of DI's games there is an extensive menu that allows you to get to grips with the game and gradually work your way up as you gain in expertise. The first option on the menu is "events" which enables the following: demo, single, season, Olympic, practice, save/load and restart. Demo just shows you how it should be done, single allows you to choose one of the six courses and race on that, practice lets you have a run down the course before going for the race. A season is a series of twelve runs, two on each course where you try to amount championship points.

The Olympic option can't be used until you have an Olympic class bob and have finished in the top three during a championship season. Points are scored according to your finishing position in the race, eight for first and one for eighth unless you crash in which case



you don't score anything. Restart lets you start again from scratch.

"Players" comes next and from this you can select the number of players and the nationality of your team. One or two people can play and in the two player game you each choose a country to represent. "Venues" lets you choose which course to race down in the single option, get a map of the course and see the world records for the particular course in both two and four man bobs. The six courses are St. Moritz, Konigssee, Innsbruck, Winterberg, Calgary and Breuil. The difficulty of the courses varies with some very nasty bends in places. The weather conditions can be looked up in more detail from the next option on the menu and this is important in selecting which runners to use on the bob. They come in four types and the right choice is needed to get the maximum speed and grip out of the bob with the particular weather conditions.

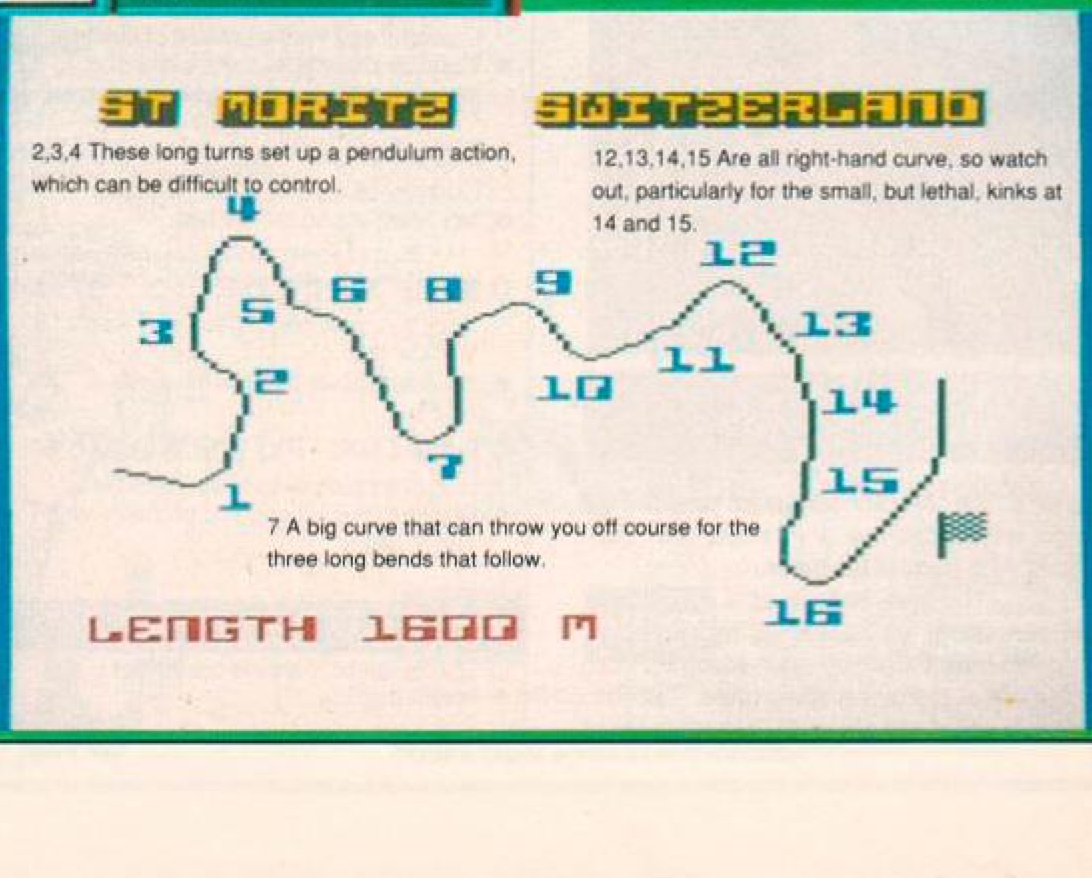
Before you start the race it might be an idea to have a bobsleigh. There are four types of bob, amateur, national, European and Olympic. Initially you can only afford an amateur bob with a two or four man team and this sets you back £8,000. The more expensive the bob the faster it will go, but it also gets harder to control at top speed. The better you do in races the more sponsorship money you get, allowing the more expensive bobs to be bought. The final option is the cash option and this allows you to choose your team colours and train the crew. With training you have a short period of time in which you waggle up and down on the joystick to increase their fitness. Fitness starts at poor, goes through several stages before ending up with super human.

Everything's ready now so grab your joystick and prepare to race, the lights go green and off you go. To start the bob you need to waggle up and down and then, just before you reach a black line across the course, you leap into it. If you jump too late then the bob will go without you for a short and destructive run down the course, before crashing into a wall of ice. Your view is from behind the brakeman in the bob. The view tilts as you go around curves, giving an excellent impression of speed and movement.



Assuming that you made it past the start, you then have to go as fast as possible down the course, steering around bends and travelling along the ice wall, in an attempt to beat your computer or human opponents. Take care that you don't go too high on the banking because crashing causes severe damage to your bob and bank balance. Crashing is pretty spectacular, never fatal, but it does lose you the race. If you do well then you will get sponsorship. This is needed to keep repairing the bob, replace the worn runners and train the team. Bankruptcy will result in having to begin all over again. One point to remember is to hit the brakes at the end of a race, otherwise you'll crash into the bales and lose the race.

Sporting fans may well recognise the title tune that plays until your ready to play, and very nice it is too. Sound is rather simple in the



MASTER GAME

game, being just runners scraping against ice and the wind whistling past. There's not much else they could do in terms of sound for a simulation like this, and at least it gives you an idea of the speed you're going. The bobsleigh itself is large and colourful with the riders sitting in the bob, wearing your team colours. The course graphics are fast and move smoothly as you hurtle around corners.

Sporting simulations have never been a particular favourite of mine, but occasionally one crops up that's head and shoulders above the rest, this is one of them. It's not just a case of seeing how fast you can waggle the joystick, because there's the strategy element too. Anyone can get a fast time, but it will take lots of practice before you walk away with Olympic gold. **GBH**

SECOND OPINION

Bobsleigh games have cropped up as part of other sporting compilations, but never as a game on its own. DI's full-blown effort is absolutely tremendous, combining some great fast action with tactical decisions. This sort of thorough treatment of a simulation is so much better than just a simple arcade game. The graphics are excellent and the control of the bob is just right to get you totally involved with the driving. It takes a while to get proficient, but the whole learning process and eventual triumph is enormously rewarding. **BW**



GREEN SCREEN VIEW

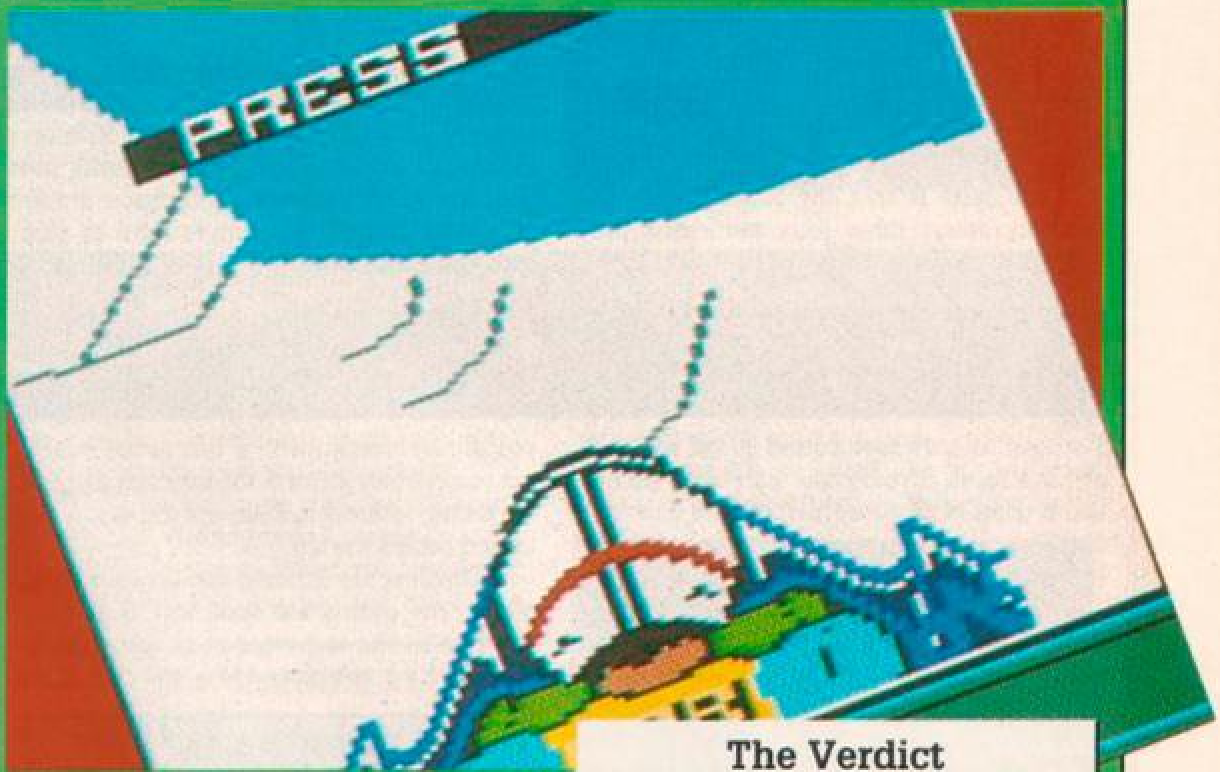
The ice is green, but there's no problem seeing everything.

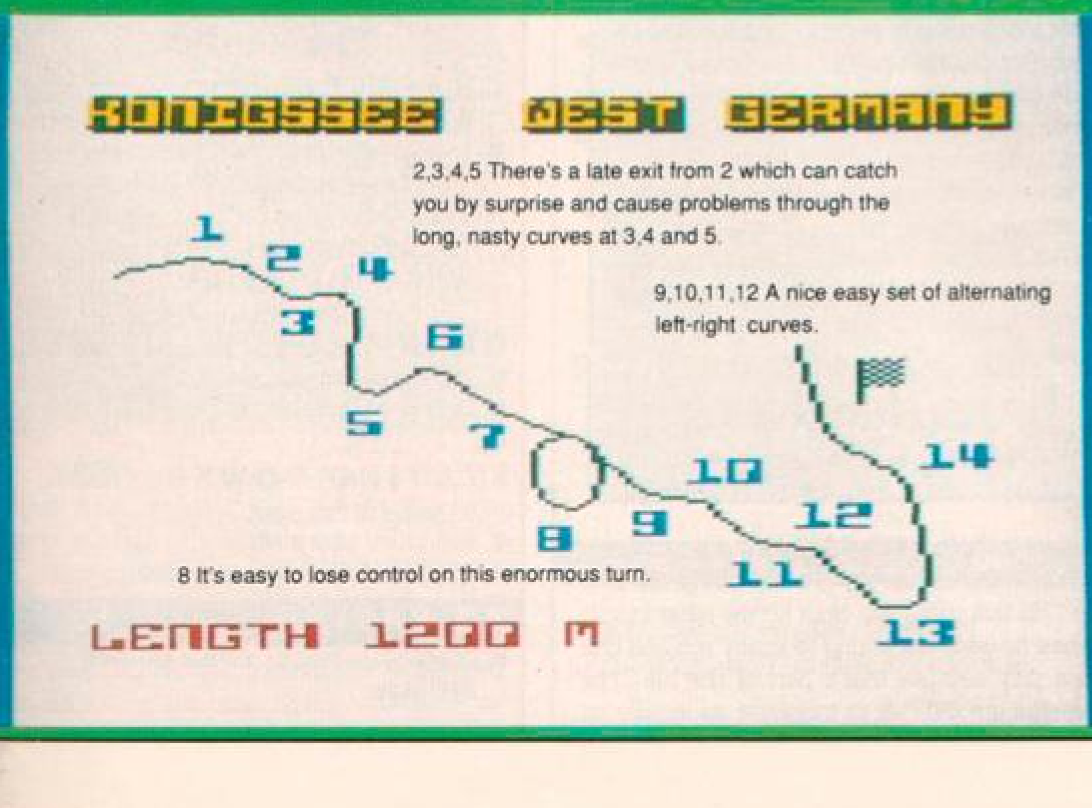
FIRST DAY TARGET SCORE

Complete a season in the top three.



Made it to the end of the run





The Verdict

GRAPHICS 80%
- Bright and colourful bobsleigh.
- Fast moving track graphics as you hurtle downward.

SONICS 63%
- A great little title tune.
- In-game effects are naturally limited.

GRAB FACTOR 90%
- Controlling the bob has a superb "feel".
- Host of options to vary the action.

STAYING POWER 93%
- Olympic gold will take a long time to get.
- Strategy element extends the game's life.

AA RATING 91%
- A combination of strategy and fast reactions that mould together well.

RAMPAGE

Activision, £9.99 cass, £14.99 disk, joystick or keys

America beware, three large and angry monsters are out to destroy the cities of the USA. It's all the fault of the Greaseburger Fast Food Emporium. Their research division accidentally shipped out some experimental food additives to improve the taste of the burgers. Ralph, Lizzie and George ate them and then had a sudden urge to rip their clothes off and turn into fifty foot monsters.



SECOND OPINION

A three player game is great fun at first, even if they have picked a daft bunch of keys that you can't redefine. The monsters are big and brutal, just the way we like them. It's a game that suffers in the long term from getting repetitive – one demolished building is much like another. You'll love it at first but it won't keep you hooked for too long. **BW**

GREEN SCREEN VIEW

Whether you're a green, blue or brown monster, there's no problem playing on a green screen.

The game is split into 50 cities and the monsters spend three days terrorising the occupants before moving on to a new city.

Across the top of the screen is a damage meter and score for each of the monsters, the rest of the screen shows the current part of city that you are in.

George the Gorilla, Lizzie the Lizard and Ralph the Wolfman can all be controlled from either keyboard or joystick with the possibility of three players at a time – one on joystick and two on keys. The objective of the game is simple, climb up buildings, smash them to pulp and watch them fall to the ground. To smash a building you just climb up and move the joystick in the direction that you want to punch while holding down the fire button.

Sometimes when you punch a hole in a building objects appear. There are two types of object, edible and inedible. Eating the edible ones like goldfish and humans restores your damage meter, eating inedible ones like toasters and cacti makes you take damage and fall off the building. When a building has taken sufficient damage cracks will appear and you

RAMPARTS

Go, £9.99 cass, £14.99 disk, joystick or keys

Two knights have been cursed by the evil one and as a result have become marauding giants in this game of medieval mayhem and destruction. One or two players can take part as the evil duo in their attempt get rid of the curse.

The screen has a damage meter and score for each player at the top and the rest of the screen shows a castle and the surrounding landscape. There are over 90 levels and to continue onto the next you must demolish the castle. This is done by climbing up the walls and punching them down. The owners of the castle



Punch the wall, but watch out for the low flying bird

get upset when their home starts falling down around their ears, so they try and deter you by shooting at you with arrows, cannons and catapults. If the gameplay sounds familiar then it's because this is a variation on *Rampage*.

Food can be found to replenish your damage meter and other things cause you harm when you eat them. The guards that shoot at you can be crushed with a well aimed punch, but you can only strike in the direction that you are facing, whereas in *Rampage* you can punch up and behind you too.

Graphics are colourful and the castles are pretty. The guards are small and ill defined, but they are the only weak point in the graphics. There's a title tune and a one that plays before the game starts and they are both very good. Sound effects are of a similar standard.

In this game you can't hit the other knight when he does something to annoy you and this is a pity because that's part of the fun. The screens are difficult to complete, especially on the one player game where everyone concentrates on hitting you. Climbing castle walls is not very easy because you have to get in the correct position before you can begin to climb. Being able to press the diagonal so that you can climb as soon as you reach a wall would have been much better. **GBH**

SECOND OPINION

It might initially look better than Rampage *but any notions of superiority disappear as soon as you start playing. The action is far too slow and climbing is too frustratingly awkward. It has exactly the same problem as* Rampage *in that it gets repetitive, but here you don't even have three players or humour to pep things up. It would have been distinctly average if it had appeared at any other time, but in direct comparison with* Rampage *it doesn't come out well.* **BW**

GREEN SCREEN VIEW

No problems.

FIRST DAY TARGET SCORE

10,000 points.

The Verdict

GRAPHICS 87%
- Pretty and colourful castles.
- Poor animation.

SONICS 76%
- Two very good tunes.
- Sound effects are good too.

GRAB FACTOR 63%
- Too difficult to complete a level.
- Only two player action.

STAYING POWER 52%
- 90 levels to complete.
- Repetitive after a while.

AA RATING 55%
- Doesn't fare well in comparison with *Rampage*.

should then jump off, because if you don't then you will fall to the ground and damage yourself. When all buildings on a screen have been destroyed then you move to the next screen.

The occupants of the cities get a little annoyed at all this mindless destruction on the part of the monsters and as a result they call out the police, air force and national guard. Helicopters, tanks and soldiers fire at you while you get on with the serious business of destruction. Each hit increases the amount of damage that you take and if you run out of energy then you revert back to your human form and shuffle off the side of the screen.

A tune plays throughout the game, but it tends to get on your nerves rather than add to the action. Sound effects are simply punching sounds and that of falling buildings. The three monsters are easily identifiable and are large, colourful and well animated. The buildings are uninspiring with little colour and variation. All of the vehicles and aircraft are simple and move reasonably well.

What made this game fun in the arcades was the three player option and unfortunately key clash has to some extent ruined the game on the Amstrad. Mindless destruction of the USA is great fun and you should help in this worthwhile endeavour as soon as possible.
GBH

FIRST DAY TARGET SCORE
5,000 points

The Verdict

GRAPHICS **78%**
- □ The monsters look good.
- ■ Pity about the drab scenery.

SONICS **57%**
- ■ Irritating tune.
- ■ Sound effects aren't much better

GRAB FACTOR **82%**
- □ Demolition is great fun.
- □ Three players adds to the enjoyment.

STAYING POWER **70%**
- □ 150 screens to complete.
- ■ They are all very similar

AA RATING **76%**
- □ A good game that lacks variety in the long run.

Going on the Rampage, or scaling the Ramparts?

In a direct comparison the two games are very similar but have the following important differences:

1. *Rampage* can have 1, 2 or 3 players whereas *Ramparts* can only have 1 or 2. Even so the choice of keys for the former is poor.

2. Graphically *Ramparts* is the better game with more detailed and colourful backgrounds. However the monsters in *Rampage* are better animated than the knights.

3. Sound and music on *Ramparts* is much better with *Rampage* coming a poor second.

4. Control of the monsters in *Rampage* is much better than that of the knights in *Ramparts*, where climbing and destroying walls is much more finicky and frustrating.

5. As far as gameplay is concerned *Rampage* is by far the better game with a lot more addictiveness and humour. This factor, in the end, is the most important.

SUPER HANG-ON

Electric Dreams, £9.99 cass, £14.99 disk, joystick or keys

Arcades across the country have part of a motorbike sticking out of a games machine. The part that's sticking out is the seat and handlebars and people are often seen sitting on it as the bike rocks from side to side. The sound of motorbike engines roar through the speakers on either side of the game. That very game has made it's way to a micro near you, but the cassette box unfortunately doesn't have the bike in with it.

This game is more or less *Pole Position* on a motorbike, and as far as objectives go you must simply reach a checkpoint within the time limit. You've got to go as fast as possible without hitting any other riders or the inconveniently positioned rocks, trees and signposts that litter the road sides. It's tough and a crash can be enough to make you fail to qualify.

Four gruelling cross continent races are yours to play, ranging from 6 stages in Africa to 18 stages in Europe. When you complete a stage the time that you had left has half a minute added to it and play continues until the race ends or you run out of time.

Graphically it looks like it was programmed on a Spectrum and ported across to the Amstrad without any conversion effort. As a result there is little colour and it looks a lot like *Enduro Racer*. A truly horrendous tune plays at the start of the game and you can't exit it to put your ears out of their misery. In game effects are of a similar low standard.

The arcade game had fantastic graphics and sound, not surprisingly the eight bit micros like the humble Amstrad just can't convert the game properly. The game as it stands is good, but anyone expecting the arcade game is going to be very disappointed. **GBH**

FIRST DAY TARGET SCORE
Complete four stages



The finish line of stage two with seconds to spare

SECOND OPINION

There's no doubt this is playable and addictive, and there are an awful lot of stages to keep you going. In that sense it's a cracking game. What is extremely annoying is that this has just been ported across from another machine and no effort at all has been put into using the CPC's qualities. You may not think that's important if it plays OK, but if it had been properly converted, maybe we would have had a great game instead of just an adequate one. **BW**

GREEN SCREEN VIEW

Very little colour so there are no problems in green.

The Verdict

GRAPHICS **41%**
- □ Large well animated bikes.
- ■ Pathetic lack of colour.
- ■ Even has attribute clash.

SONICS **14%**
- ■ Hideous music and horrid sound effects.

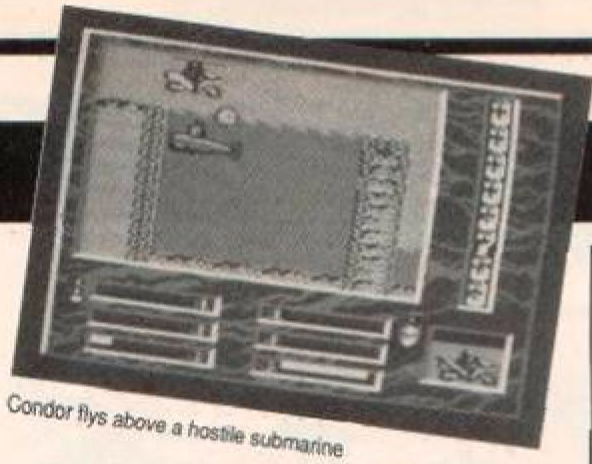
GRAB FACTOR **74%**
- □ The first few stages are easy enough to keep your interest.
- □ Very addictive "one-more-go" stuff.

STAYING POWER **62%**
- □ Four continents of increasing length to complete.
- ■ The way that bikes sometimes leap in front of you is irritating.

AA RATING **68%**
- ■ A hurried and careless conversion
- □ Still surprisingly playable and addictive.

MASK II

Gremlin, £9.99 cass, £14.99 disk, joystick or keys



Condor flys above a hostile submarine

Venom (the Vicious Evil Network Of Mayhem for those who have forgotten) strikes back. They're out to cause anarchy, death and destruction. The heroic forces of Mask are again going to do their best to stop them.

There are three missions: the Desert mission, Venom Base mission and Jungle mission, and you can choose which to undertake at the start of the game. You then have a choice of which three members of the Mask team to send on the mission (why can't you send all five ?). The five members have their own craft which are Thunderhawk, Rhino, Rhino ATV, Condor and Gator. Thunderhawk and Condor can fly, Rhino ATV and Gator can travel over water and Rhino can smash through walls.

SECOND OPINION

Although this sequel tries to bring in more of the multi-character action of the cartoon, I don't think it's as good as the original. The action is broadly similar whoever you are controlling, and the enemy fail to provide many surprises. I'm rapidly going off the idea of sequels, particularly when they are tied in to cartoon licences. **BW**

GREEN SCREEN VIEW

Green screen is as clear as colour.

Each mission is a horizontally scrolling landscape filled with hostile forces. In the Desert mission the President of the PNA (Peaceful Nations Alliance) is missing (all of him, not just the brain) and Venom are the culprits. He is being held to ransom and you must rescue him and take him to the Summit talks, where he is to sign a treaty that will ensure world peace for decades.

In the Venom base mission you are trying to find a missile with which you can destroy the Venom base and stop their control of the Middle East oil resources. In the jungle mission a large ruby has been stolen from a monastery and is being used by Venom to develop a powerful weapon. The weapon is inside a temple that must be destroyed and the ruby taken back to the monastery.

A tune plays on the title screen and this sounds reasonable. There aren't any tunes in the game itself. Sound effects are functional as explosions and firing sounds. As a sequel this isn't such a bad game, but it doesn't have the playability of it's predecessor. There are three games here, but they are very similar – you always have to rescue someone or something. If there's a *MASK III* I hope it's better. **GBH**

The Verdict

GRAPHICS 67%
- □ Nicely animated vehicles.
- ■ Poor horizontal scrolling.

SONICS 47%
- ■ Sound isn't made much use of

GRAB FACTOR 65%
- □ Choosing the team members gives you more control.
- ■ Frustrating if you can't do a mission because the vehicle needed is destroyed.

STAYING POWER 53%
- □ Three missions to complete.
- ■ Not enough variety in the tasks.

AA RATING 60%
- ■ Just not as addictive as the original.

FIRST DAY TARGET SCORE

Rescue the President

SCRUPLES

Leisure Genius, £9.95 cass, £14.95 disk, joystick or keys

Your morals are about to be tested, in this conversion from the board game of the same name. From 3 to 10 players can play and any of them can be computer controlled.

Once the number of players has been selected you must feed in your personality. This is set up as a bar chart with the following traits: principles, personal integrity, professional integrity, trust, family relationships, partner relationships, friendships, busy-body factor, humanity, greed, shyness and honesty.

You can choose a face that will represent you in the game out of the 64 faces supplied. Computer characters have their own personality chart that affects how they play. Characters with sunglasses tend to be dodgy and honest looking ones generally answer truthfully.

Players take it in turns to ask a question. You first look at your answer card which will be yes, no or depends. This is the answer that you want whoever you ask to say. Choose a question out of the question cards that you have and then pick someone to question. If they say the same answer as is written on your card then you take a new answer card. If they give another answer then you take new question and answer cards.

If any player thinks that the person that answered was not telling the truth, then they can challenge them. When the game ends your preset personality chart is shown and one according to how you played is also shown.

Decisions, decisions



SECOND OPINION

This had potential as a good game if they hadn't made ot like the board version. As it is it offers little more than the board game except a few weird faces. You might play it once in a blue moon when you've got half-a-dozen people round, but otherwise it isn't much fun after a few plays. **BW**

GREEN SCREEN VIEW

Green or colour it makes no difference.

To win the game you must be the first person to get rid of all of your questions. The computer characters will act according to their personality at the start of the game, but if they begin losing they will play out of character.

Sound is simple beeps and buzzes when a key is pressed except on the title screen when a jolly tune plays. The only graphics are those of the bar charts and faces of the characters.

Board games are usually better as board games than computer games, and this is no exception. You may want to play alone to pass some time, but the reason for a board game is often social, and a large group of people don't usually fit around a computer. **GBH**

The Verdict

GRAPHICS 38%
- □ Nice little faces.
- ■ Not a game suited to good graphics.

SONICS 29%
- ■ Beep.

GRAB FACTOR 59%
- □ Finding out what a despicable person you are is interesting.
- ■ Computer opponents are far too easy.

STAYING POWER 68%
- □ Not bad as a group game.
- ■ Only 230 questions.

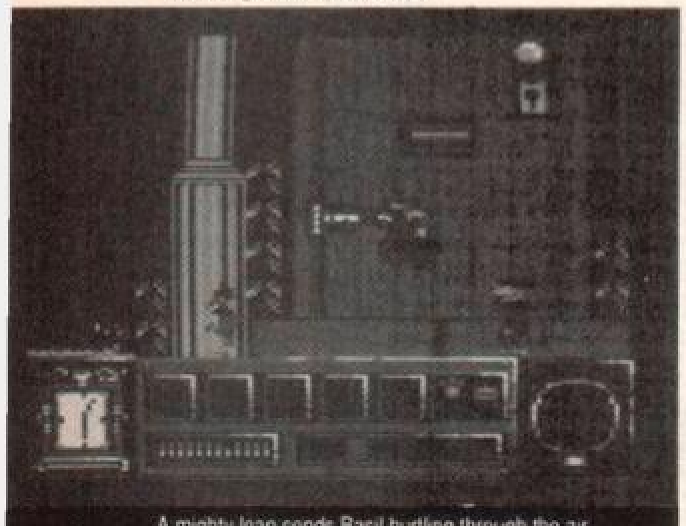
AA RATING 63%
- ■ A bit expensive for what it is.

BASIL THE GREAT MOUSE DETECTIVE

Gremlin, £9.99 cass, £14.99 disk, joystick or keys

You've seen the film, now play the game with this well animated creation. Anyway, enough of the blurby small talk, on with the show!!!

Basil's a good bloke, a bit on the posh side, but with the longest leap you've ever seen! Probably comes from his training as a nipper to jump away from those horrible cats chasing their next meal!


A mighty leap sends Basil hurtling through the air

Basil is a detective. A **Great Mouse** detective. That means that he is a mouse, not someone who is good at finding mice! The case that Baz is on at the moment is one where his chubby friend has been mousenapped by this fiendishly fiendish fiend Professor Ratigan. The Prof. has a band of sinister henchmen, who he employs to do his dirty deeds. The case will lead you through the streets of London, along the seedy waterfront district until you come to the Prof in his favourite hovel – the sewers.

When controlling Baz, be sure to beware of the Prof's evil henchmen. Any contact with them will reduce your energy at an alarming rate, so jump over them. The first scene you see will have a big door in the background. There's something special about doors, but I'm not going to tell you what.

SECOND OPINION

Another arcade adventure with pretty graphics and plenty of problems to solve. At first it's very confusing, but after a while you begin to discover things. Good graphics don't make a good game. Not really my type of game, but it provides an interesting challenge. **GBH**

GREEN SCREEN VIEW

A little confusing at times, but in general everything is visible.

Dotted around the scenes are sacks and other funny shapes which hide objects. These objects vary from cheese which will increase your energy, mousetraps which you can use to trap the henchmen, to clues which will help you to get into the next scene. To see which objects are hidden in the sacks, you press the spacebar. The object will appear in the magnifying glass at the bottom of the screen. You then choose to pick it up or drop it. If your pockets are full, you will be asked which object you want to drop.

There's not much else to the game, but I found it fun to play and very frustrating. The graphics are good, and the animation is smooth. The characters are well defined and very colourful. Like I say I enjoyed playing this game, and I think you will. **CJB**

The Verdict

GRAPHICS 73%
- □ Colourful, well defined characters.
- □ Smooth animation.

SONICS 41%
- ■ Nothing special.

GRAB FACTOR 69%
- □ Easy to get into, due to simple controls.
- □ Amusing features add to enjoyment.

STAYING POWER 71%
- □ Difficult overall task to complete.
- ■ May be large, but repetitive too.

AA RATING 70%
- □ Good game of the film.

FIRST DAY TARGET SCORE
2,500 points

MADBALLS

Ocean, £8.95 cass, £14.95 disk, joystick only

Take a hideously deformed toy and produce a game based on it and what do you get? I'll answer that later, but for now here's the plot. There's a planet called Orb that's occupied by insane spheres. The political system is based on how many members there are in your gang. You are Dust Brain and decide to become supreme leader on the planet, unfortunately every one else has the same idea and unsuccessful candidates wind up dead.

There are eight balls in all: Freeky Fullback, Swine Sucker, Slobulus, Dust Brain, Fist Face, Horn Head, Skull Face and Screemin' Meemie. There are four characteristics that the balls have: speed, strength, hunger and food. Speed is how fast you can move, strength is how hard it is to deflect you, hunger indicates how fast your energy is used up and food is the type of food that you eat.

SECOND OPINION

Something went badly wrong between the concept and programming stages of this game. What probably sounded like a good idea – battling balls bouncing around a weird landscape full of surprises – has become an unplayable and monotonous game. Great packaging, lousy game. **BW**

GREEN SCREEN VIEW

Dull, but visible.

Scenery comes in many types: trampolines, springboards, tyres, catapults, dustbins, open dustbins, pyramids, oil slicks, fried eggs and goals. Trampolines restore some of your bounce, springboards and catapults help you to jump long distances, tyres are bouncy, ramps and pyramids deflect you, oil slicks make you slip and eggs can be squashed for points. The goals are the most important because if you land in them you die. This may not sound too useful, but if you knock another ball into the goal then you can control him. If you want to swap the ball you are controlling then all you have to do is use an open dustbin.

A really good title tune plays, but there's no tune in the game itself. Sound effects can be summed up in one word, yuk! The graphics are dull and unimaginative with badly animated bouncing balls.

There's no incentive to play this game, all you do is bounce around bumping into things with no sense of achievement. The game does have some nice packaging and a set of stickers, pity the game isn't as good.

The Verdict

GRAPHICS 43%
- ■ Dull colours on the scenery.
- ■ Poor animation of the madballs.

SONICS 62%
- □ Great title tune.
- ■ Pity about the rest of the effects.

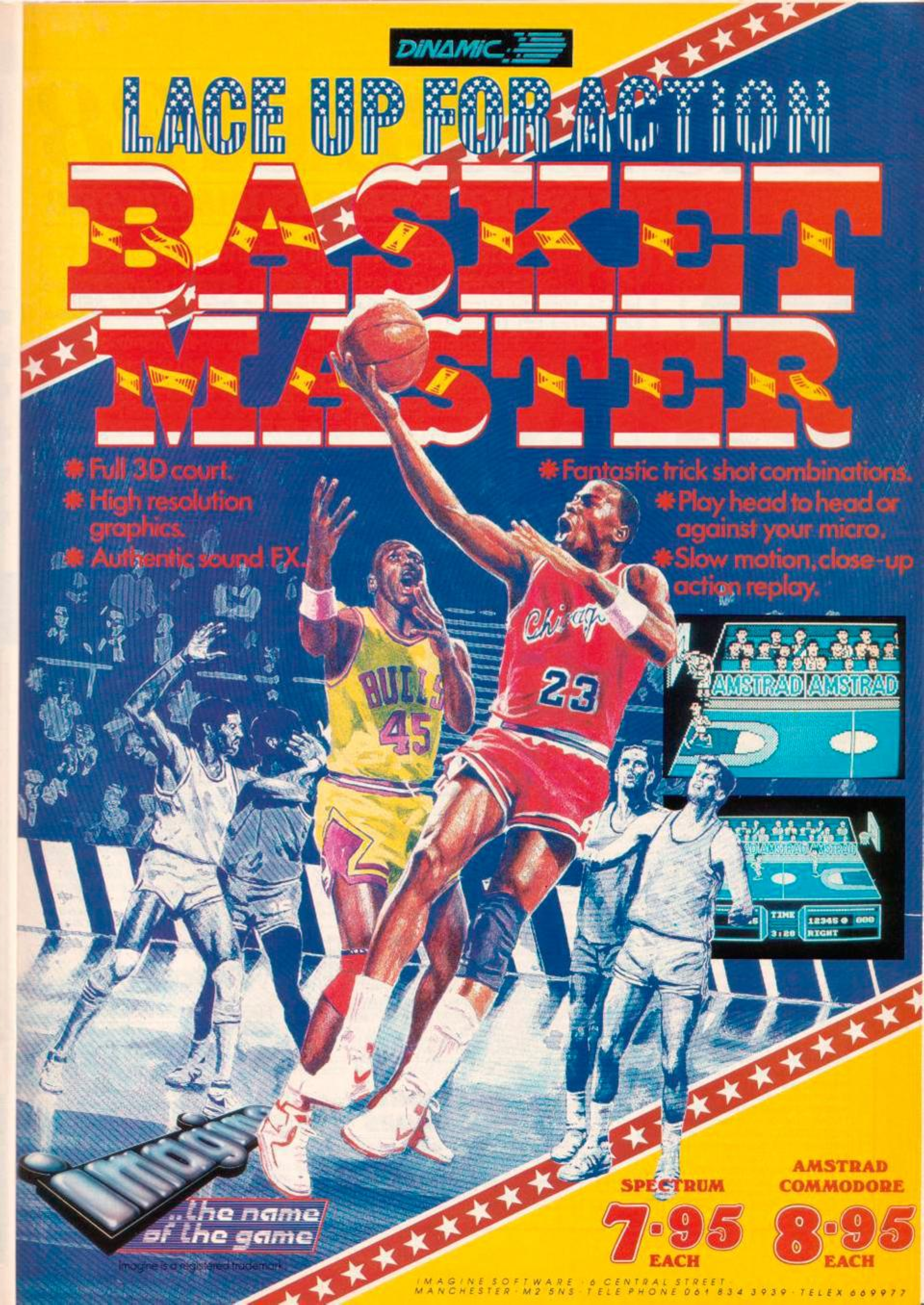
GRAB FACTOR 53%
- ■ Very difficult to get anywhere at all.
- ■ Virtually nothing to do.

STAYING POWER 45%
- □ Becoming supreme ball is tough.
- ■ So frustrating it's hard to persevere for long.

AA RATING 48%
- ■ A tedious game.

The answer to the question is: a hideous game. **GBH**

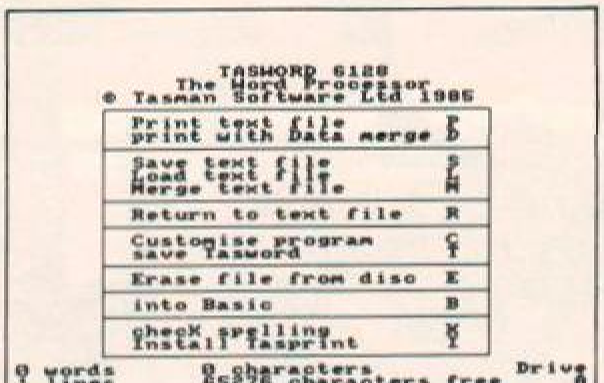
FIRST DAY TARGET SCORE
20,000 points

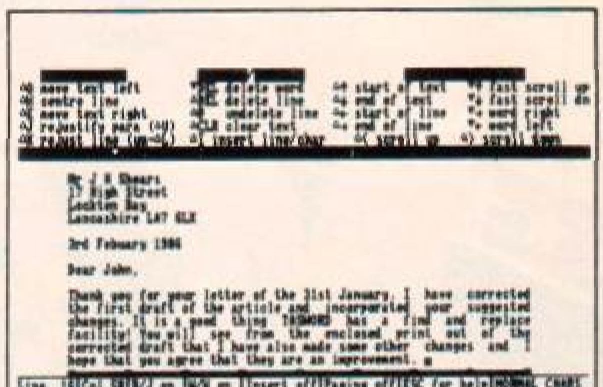

DINAMIC
LACE UP FOR ACTION
BASKET MASTER
* Full 3D court.
* High resolution graphics.
* Authentic sound FX.
* Fantastic trick shot combinations.
* Play head to head or against your micro.
* Slow motion, close-up action replay.
AMSTRAD AMSTRAD
TIME
3:20
RIGHT
Imagine
..the name of the game
Imagine is a registered trademark
SPECTRUM
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EACH
AMSTRAD
COMMODORE
8·95
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TASWORD 6128

THE WORD PROCESSOR FOR THE AMSTRAD CPC 6128







TAS-DIARY

THE ELECTRONIC DIARY

TAS-DIARY for the Amstrad CPC 6128, 664 and 464 with disc drive disc £12.90

Keep an electronic day-to-day diary on disc! TAS-DIARY features a clock, calendar and a separate screen display for every day of the year. Each year stored on disc includes a memo pad and several note pages. TAS-DIARY is an invaluable aid to keeping records, reminders, and any other data which is related to that most valuable commodity of ours – time!

TASWORD 6128

THE WORD PROCESSOR

TASWORD 6128 for the Amstrad CPC 6128 disc £24.95

Brilliant value for money.
AMSTRAD ACTION December 1985.

A powerful and easy to use word processor and a superb data merge program.
AMTIX December 1985.

TASWORD 6128 is the word processor especially developed to utilise the extra memory in the CPC 6128.

The program uses ALL the additional 64K of memory in the CPC 6128 as text space. This means that text files can be around ten thousand words long.

TASWORD 6128 includes a built-in data merge program. Mail merge, in which a letter is printed any number of times, each individually addressed to a different person, is just one of the applications of this powerful facility.

The notepads are a unique feature of TASWORD 6128. Four separate notepads are available. Typing reminders and storing letter headings are just two possible applications for the notepads.

Up to one thousand characters can be stored in ten user definable keys allowing commonly used words, sentences, or even paragraphs to be typed with a single keypress.

TASWORD 6128 has comprehensive customisation features. These allow many of the program facilities to be changed to personal requirements. A customised program can be saved and includes the notepads and user definable keys.

TASWORD 6128 is fully compatible with TAS-SPELL and TASPRINT. It will also read in data from Masterfile 6128. It can even be used to enter and edit your own Basic programs.

With all standard and many extra word processing facilities TASWORD 6128 is the most powerful of the TASWORDS, for the Amstrad CPC computers.

TASWORD 464-D

THE WORD PROCESSOR – WITH MAIL MERGE!

TASWORD 464-D disc £24.95

This is the new TASWORD especially developed to utilise the capabilities of the CPC 464 and 664 disc drives. The additional facilities include a larger text file size and automatic on-screen disc directories during save and load operations. A major new feature is the mail merge facility. This gives multiple prints of your standard letters, forms, etc., with each copy containing, for example, a name and address automatically taken from a disc file containing the data. This data can be entered using TASWORD 464-D, or created using the Masterfile Program Extension package. A powerful and useful conditional printing facility is included – parts of a document can be printed according to user-specified criteria. TASWORD 464-D will only run on, and is only supplied on, disc.

TAS-SPELL

THE SPELLING CHECKER

TAS-SPELL disc £16.50
for the Amstrad CPC 464 and 664 running TASWORD 464-D and for the CPC 6128 running TASWORD 6128

Spelling mistakes and typing errors spoil any document whether it is a private letter or your latest novel. With TAS-SPELL you are free to be creative in the confident knowledge that your spelling won't let you down.

TAS-SPELL checks the spelling of TASWORD 464-D and TASWORD 6128 text files. TAS-SPELL has a dictionary of well over twenty thousand words which it compares with the words in your text. If a word is not recognised then the relevant part of your text is displayed with the suspect word highlighted. You can correct the word, ignore it (it might be a name), or even add it to the TAS-SPELL dictionary.

Please note that TAS-SPELL will only work with TASWORD 464-D and TASWORD 6128.

TASWORD UPGRADES

TASWORD 464 and Amsword owners: send your original cassette or disc (not the packaging) as proof of purchase and £13.90. Your original will be returned together with TASWORD 464-D or TASWORD 6128 on disc.

TASPRINT 464

THE STYLE WRITER

TASPRINT 464 cassette £9.90 disc £12.90

A must for dot-matrix print owners! Print your program output and listings in a choice of five impressive print styles. TASPRINT 464 utilises the graphics capabilities of dot-matrix printers to form, with a double pass of the printhead, output in a range of five fonts varying from the futuristic DATA-RUN to the hand-writing style of PALACE SCRIPT. TASPRINT 464 drives the dot-matrix printers listed below and can be used to print AMSWORD/ TASWORD 464 text files. TASPRINT 464 gives your output originality and style. Completely compatible with the 664 and 6128.

TASWORD 464

THE WORD PROCESSOR

TASWORD 464 cassette £19.95

"There is no better justification for buying a 464 than this program"
POPULAR COMPUTING WEEKLY, NOVEMBER 1984

Your 464 becomes a professional standard word processor with TASWORD 464. Supplied complete with a comprehensive manual and a cassette which contains both the program and TASWORD 464 TUTOR. This teaches you word processing using TASWORD 464. Whether you have serious applications or simply want to learn about word processing, TASWORD 464 and the TUTOR make it easy and enjoyable.

TASCOPY 464

THE SCREEN COPIER

TASCOPY 464 cassette £9.90 disc £12.90

A suite of fast machine code screen copy software for the CPC 464, 664 and 6128. Print high-resolution screen copies in black and white and also large 'shaded' copies with different dot densities for the various screen colours. TASCOPY 464 also produces 'poster size' screen copies printed onto two or four sheets which can be cut and joined to make the poster.

TASPRINT 464 and TASCOPY 464 drive the following dot-matrix printers:

AMSTRAD DMP1	MANNESMANN	STAR DMP501/5/515	SHINWA CP-80
EPSON FX-80	TALLY MT-80	BROTHER HR5	COSMOS-80
EPSON RX-80	BROTHER M1009	DATAC PANTHER	AMSTRAD DMP2000
EPSON MX-80 TYPE III	NEC PC-8023B-N	DATAC PANTHER II	

BUGGY BOY

Elite, £8.95 cass, £14.95 disk, joystick or keys

Climb into the driving seat of your Baja Bug and prepare to race along a track filled with hazards. There are no other cars to compete against, this is just man and machine against obstacles and the clock.

There are five courses to choose from: offroad, north, south, east and west. The tracks are made up of five stages with a time limit in which to complete each of them. The offroad track is a cyclic route with the start and finish being in the same place, the others have check points and a final destination.



Riding along on two wheels



Gates give large bonuses

Walls and fences turn you over

Flags score points

Logs make you leap into the air

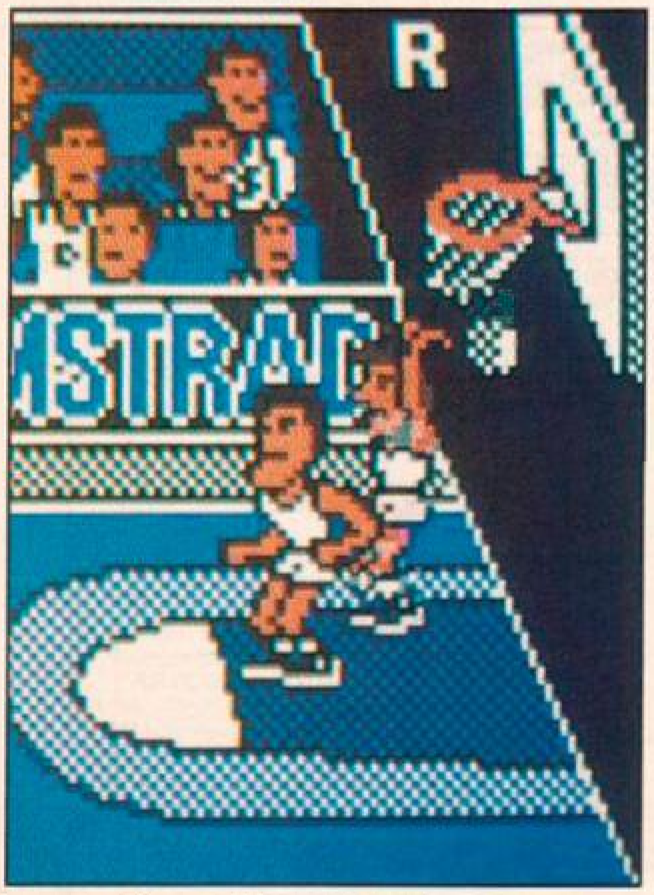


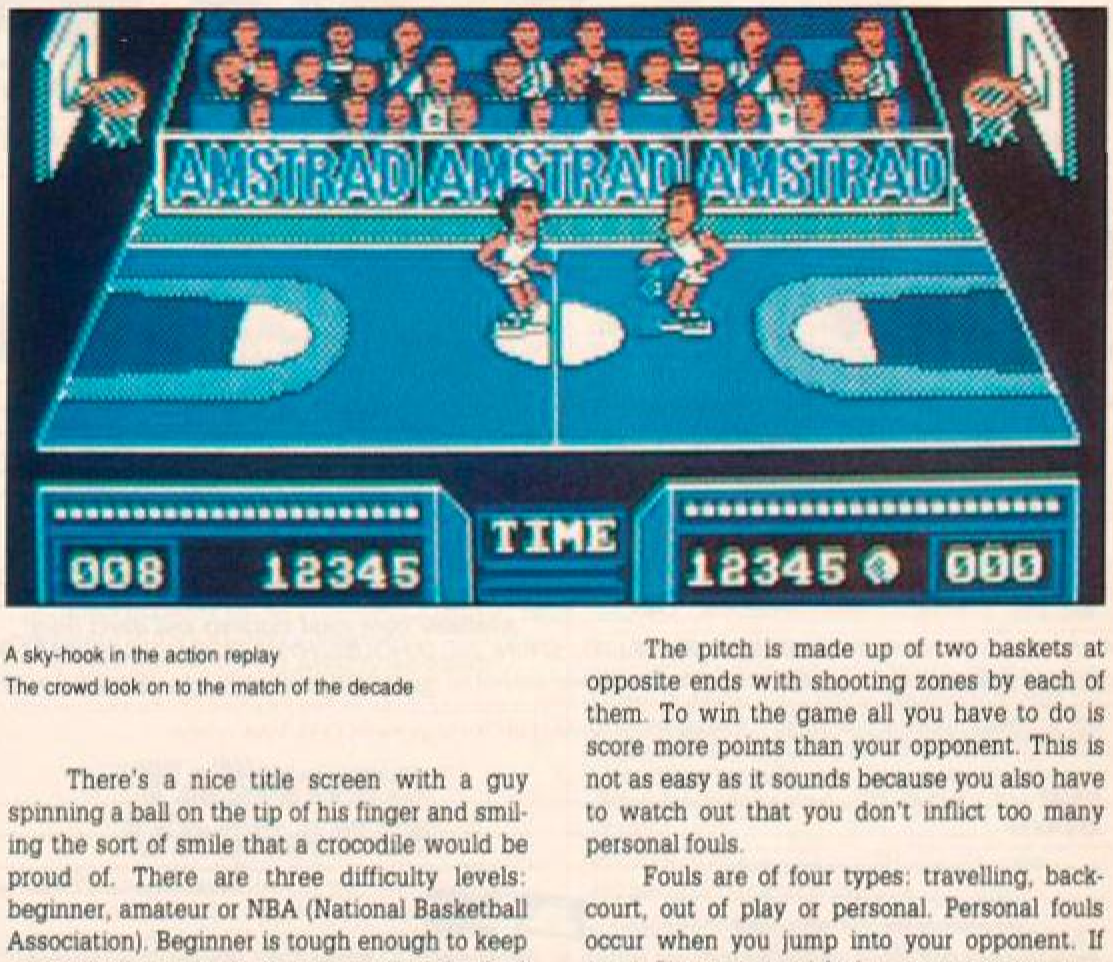
The tracks are made up of a road with a hard shoulder down either side of it, both of which have many good and bad obstacles in the way. Gates, time gates, flags, fences, walls, trees, logs and molehills appear across the width of the road. Gates give you bonus points,

BASKET MASTER

Imagine, £8.95 cass, £14.95 disk, joystick or keys

Dinamic are renowned for their flick screen shoot-em-ups like *Game Over* and *Freddy Hardest*. This is a departure for them to a one on one basketball simulation. One or two players can take part.





A sky-hook in the action replay

The crowd look on to the match of the decade

There's a nice title screen with a guy spinning a ball on the tip of his finger and smiling the sort of smile that a crocodile would be proud of. There are three difficulty levels: beginner, amateur or NBA (National Basketball Association). Beginner is tough enough to keep most people on the losing side until you've had lots of practice.

The pitch is made up of two baskets at opposite ends with shooting zones by each of them. To win the game all you have to do is score more points than your opponent. This is not as easy as it sounds because you also have to watch out that you don't inflict too many personal fouls.

Fouls are of four types: travelling, backcourt, out of play or personal. Personal fouls occur when you jump into your opponent. If you inflict a personal foul your opponent gets a free shot at your basket and if this goes in he

time gates add two seconds to the time limit for the next stage, flags score you points and collecting five gives a substantial bonus.

At the top of screen is the status area which shows you how far you've travelled around the track, score, time left, number of time gates, flags collected and what gear you are in.

Fences and walls bring you to an abrupt halt with the buggy ending up on its roof, wasting valuable time. Driving over molehills and treestumps puts you onto two wheels for a little trick driving. If you hit a log then you fly through the air avoiding any ground based hazards, but turning a corner in mid air is impossible.

SECOND OPINION

The thing that initially stands out, and is most disappointing, is the slow speed at which the game proceeds. This is in fact essential for keeping the game playable, but it means there's little adrenalin rush or sense of movement. Otherwise it is an enjoyable driving game that will keep you occupied for a while and prove reasonably tough to complete. **BW**

GREEN SCREEN VIEW

No difficulties.

After a short countdown the race begins with time ticking away at the top of the screen, if it runs out then the game ends and you get bonus points for every stage that you finished. Completing a stage resets the timer and you are given two bonus seconds for every time gate that you passed through. More and more obstacles appear as you go through the stages making life much more difficult.

Footballs appear occasionally and bumping into them gives you bonus points. Puddles and tumbleweed also appear and they slow you down a little. Completing all five stages takes you to the high score table and the game ends. It's a pity that you don't automatically go to the next track in the list.

Scrolling of the screen is done well and the scenery is colourful. The buggy is well defined and when it hits a log, leaps into the air and lands with a bounce it looks particularly good. There are some minor problems with flickering graphics at times. A tune plays before the start of a race, but there are no in-game tunes. Sound effects are simply crashes and the hum of the engine.

Five courses with five stages to each is sufficient, although more variation would have been nice. It does play a lot slower than the arcade version, but if it was much faster it would be unplayable because the obstacles would be too tricky to avoid. This is one of the better racing games to come out this year but still lacks punch and excitement. **GBH**

The Verdict

GRAPHICS 76%
- □ Large, bright and colourful graphics.
- ■ Some flicker at times.

SONICS 46%
- ■ Uninspiring

GRAB FACTOR 73%
- □ Has that addictive quality that makes it instantly appealing.
- ■ Plays slowly – no feeling of speed.

STAYING POWER 64%
- □ 5 tracks with 5 stages to keep you occupied for a long time.
- ■ The stages are all much of a muchness.

AA RATING 70%
- □ A playable arcade conversion.

FIRST DAY TARGET SCORE

70,000 points

---

gets a second shot. If you inflict five fouls then you are expelled from the game.

When in possession of the ball you can either dribble, shoot or slam-dunk. A slam dunk is where you jump up close to the basket and literally push the ball into the net rather than throw from a distance. A successful slam-dunk is replayed in slow motion with a zoom in on the action.

When you haven't got the ball you can try to steal, intercept or cover the zone. Stealing takes the ball from your opponent, but you have to be quick or he'll take it back. Next to the foul meter is a space where a ball appears, if it's visible then you're in a position to steal the ball. Interceptions are when you catch the ball after your opponents had a shot at the basket and covering the zone forces your opponent to shoot from further out, where he will score less often.

At the bottom of the screen is a status area which shows energy, number of fouls, message area, score and timer. If you are low on energy then you can't perform slam dunks and your shots aren't as good. The score board shows how many points each player has scored. When the timer reaches zero the game ends and the player with the highest score wins.

Graphically this is what you'd expect from Dinamic, nice large characters and smooth animation. The slow motion action replays are delightful although they're rather chunky. A title tune plays, but there's no in-game tune. Sound effects are the bounce of the ball and the roar of the crowd when a basket is scored.

SECOND OPINION

This is the best attempt at a basketball simulation on the CPC's, but it still has some problems. Only having two players on court means it loses the passing element of the real game. This also means there's a lack of variety in the play. It's enjoyable for what it is – a one-on-one game with great graphics. The action replay looks superb, but that's no less than you would expect from the graphics masters at Dinamic. **BW**

GREEN SCREEN VIEW

Not a single problem in green.

The computer opponent is very mean even on beginner level, and at NBA level you'll need to be very good. One thing that's silly is how easy it is to make the computer commit five fouls, this could well be the only way to win for many people and it's not much fun doing it that way. As a two player game it's much more fun and should keep you occupied for longer. **GBH**

FIRST DAY TARGET SCORE

Beat computer at beginner level.

The Verdict

GRAPHICS 78%
- □ Smooth animation and large clear characters.
- □ Action replays are a nice touch.

SONICS 64%
- □ Pleasant title tune.
- ■ In-game effects are poor.

GRAB FACTOR 67%
- □ Great two player game.
- ■ Frustrating on one player.

STAYING POWER 63%
- □ Not really a game that you complete, but one you'll come back to.
- ■ Only having two players on court restricts the game's potential.

AA RATING 65%
- □ Best basketball game around.
- ■ But even then it doesn't get close to the real thing.

THROUGH THE TRAPDOOR

Piranha, £8.95 cass, £13.95 disk, joystick or keys

The sequel is here!! Yippee! Piranha snap out another with the speed of a flying tortoise. How long's it been since *Trapdoor*? Anyway it's here now, and with a vengeance.

Berk and Drutt are back with their comic actions and expressions. Don't you think that Bertie's so cute? Boni – sounds like the lead singer of a pop group – has been captured and taken down the trapdoor. Berk is visibly terrified, though Drutt seems undaunted by this truly awesome adventure that lies ahead of the daring duo.

SECOND OPINION

Large graphics that are well animated and lots of problems to solve. Unfortunately it lacks that certain something to take it from an average game to a brilliant game. **GBH**

GREEN SCREEN VIEW

The graphics look a little dull, but there are no problems otherwise.

You start off by trying to get B'n'D through the trapdoor. A nice twist so early in the game! It's not hard. B'n'D quite easily survive the long fall and jump up ready for action.

You can control either Berk or Drutt by swapping between them using the fire button. To the left of the bottom of the well screen there is a very nasty spider sanctuary, where Berk must be very careful. If he gets touched by one of them, he will be returned to the well bottom and your bonus will decrease.

The screen to the left of the spider sanctuary contains a bat with an equally electrifying effect on Berk. In the top left hand corner of the screen, a key is suspended. If you manage to get Drutt to jump up at it he can knock it down. The bat will impede his course and you will have to be quick to do it. Once the key has fallen down, you will have to get Berk to it so he can pick it up. The key opens the door. The rest is up to you to find out about.

There are sweeties dotted around the screens, which have curious effects on Berk when he eats them. Some make him bounce, while others make him fly! There are some parts of the game where precision jumping is needed. This sometimes involves making sure that whoever it is that is jumping is at the right height. All will become clear in the game.

The game has the same superbly animated and colourfully drawn graphics as its predecessor. The sound is quite nifty too. The only reservation I have is about the gameplay. I found it quite difficult to make Drutt stay still! Anyway, worth a look for the enjoyment of seeing B'n'D bouncing and frolicking around the screen. **CJB**

The Verdict

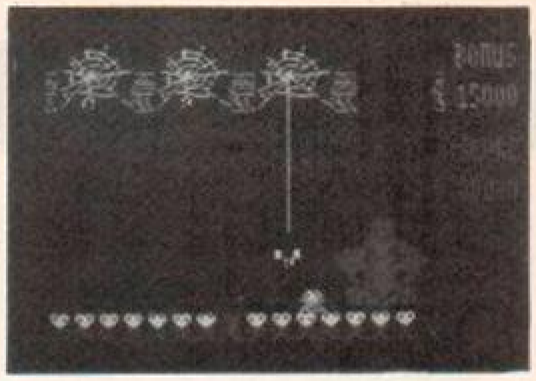
GRAPHICS 83%
- □ Well drawn, colourful, large characters.
- □ Humorous animation.

SONICS 63%
- □ Nice sound effects.

GRAB FACTOR 54%
- ■ Instructions do not help much.
- ■ Tedious start routine to get through.

STAYING POWER 78%
- □ Difficult mission to complete.
- ■ Exactly how to finish is not explained.

AA RATING 62%
- ■ Gameplay lets down the superb graphics.



Arachnophobes beware

FIRST DAY TARGET SCORE

Complete the first section.

FIRETRAP

Electric Dreams, £9.99 cass, £14.99 disk, joystick or keys

As a member of the Fire Department you volunteer for the dangerous task of scaling the burning building. Alterior motive? Yep! There's a beautiful woman stranded at the top. If you are a woman then assume it to be a man. The characters are so dubiously defined that the difference between a man and a woman stems from the deep recesses of some programmers mind. Send 'em a picture of some of the gorgeous AA secretaries, that's what I say!

You can move left and right as well as up and down. The building scrolls before you. Fire puffs from windows attempting to block your path. Use your water gun to fire a huge water globule at it. One or two hits should quench it.

The occupants of the building lean from the window shouting and screaming for help. Well I say shouting, but it's more like mouthing really. Anyway, just touching these people will send them parachuting down to the safety of terra firma! Why they don't jump before I don't know. Perhaps you whisper some sort of encouraging message!

Flaming objects fall towards you which you must either dodge or quench. As you get closer to the top of the building a fireball will descend upon you. You must dodge this or you will die. When/if you eventually reach the burning beauty, you will stand upon the top of the building for a few seconds saluting to the cheering crowd, before you free fall down to the bottom to start another run. On your way down, you can still move and fire which allows you to shoot at remaining flaming windows. A related bonus is then awarded.

Graphics are single coloured. Do I detect a similarity to the graphics of lesser computers? Sound is pretty poor, with no sound effects to mention. However, I would suggest that this game could well be suitable for anyone with a young child or wishing to get slowly into the games side of home computing.
CJB

The Verdict

GRAPHICS 49%
- ■ Blocky-tacky of the first degree.
- ■ Poor use of colour.

SONICS 41%
- ■ Strangely bad.

GRAB FACTOR 61%
- □ Easy movement controls.
- ■ Quickly gets repetitive.

STAYING POWER 53%
- ■ Each level repeats itself.
- ■ Doesn't get much harder.

AA RATING 56%
- ■ Nice idea but not well implemented.

SECOND OPINION

Uncolourful graphics makes this look pretty bad. Gameplay is repetitive – just rescuing people and dodging falling debris. A lot more could have been made of this game. **GBH**

GREEN SCREEN VIEW

Monochrome game looks as bad in green as it does in colour.

With the aid of parachute someone is rescued



FIRST DAY TARGET SCORE

12,000

YOGI BEAR

Piranha, £9.95 cass, £14.95 disk, joystick or keys

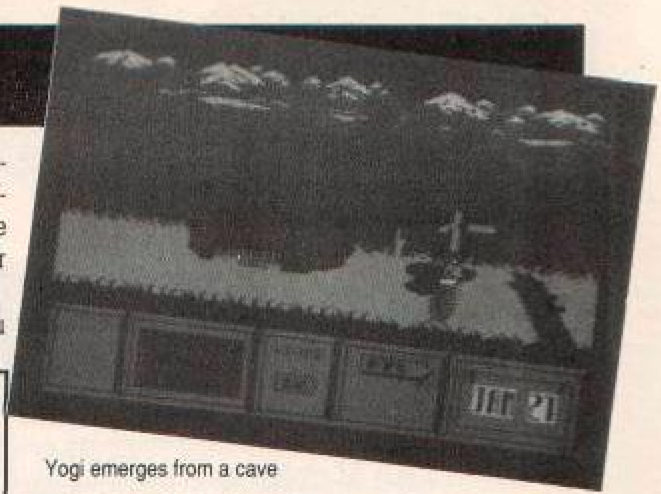
Become a smarter than average bear and seek out your ever faithful companion Boo Boo. A bloodthirsty hunter has bearnapped him and imprisoned him somewhere in Jellystone park. You have until December to rescue Boo Boo, because then it's time to hibernate. The date is displayed at the bottom of the screen.

Jellystone park is made up of over 200 screens of the flick screen variety. There are many hazards to avoid en route to your destination: insects, frogs, campers, electric fences, snakes, hunters and supposedly Ranger Smith. Contact with any of these drains your limited energy supply, when this runs out one of your five lives is over. Holes and rivers also block your path, landing in them makes another life disappear. There are also pick-a-nick baskets to restore your energy and toffee apples that you must collect.

A sign post on the screen tells you how far away from Boo Boo you are. Caves can be found on certain screens and entering these takes you rapidly forwards or backwards. When you finally reach the screen with Boo Boo imprisoned you will see a hunters cabin and some stepping stones leading to it. If you jump on them in the wrong order then the bear alarm will go off and all hell will break loose. The clues that appear on the toffee apples are needed here because they tell you the order in which you should step on the stones.

Yogi is well animated and the colour is generally well used. The scenery has little variation and some of the hostile creatures are difficult to identify. A jolly title tune plays before the start of the game, but there are only poor sound effects during play.

Moving about Jellystone is easy and you initially think that the game is too easy. The difficult part is collecting all the clue apples which are usually very inconveniently placed. Probably a game for younger folk. **GBH**



Yogi emerges from a cave

The Verdict

GRAPHICS 67%
- □ Colourful characters.
- ■ More variation in the scenery would have been nice.

SONICS 49%
- □ Happy title tune.
- ■ If only the effects had been as good.

GRAB FACTOR 69%
- □ After a few plays you'll feel like you know what you're doing.
- ■ Hazards like geysers are unavoidable.

STAYING POWER 61%
- □ It'll take a long time before Boo Boo and Yogi are re-united.
- ■ Frustration over badly timed jumps and hazards will deter you from playing.

AA RATING 66%
- ■ Not one of the better licences.

FIRST DAY TARGET SCORE
Collect three clues.

SECOND OPINION

He's cute and cuddly and, if you're looking for something mentally undemanding, okay for passing a few hours. What drives me crazy is features like the geysers which you can do nothing about except hope you miss them. This sort of feature proves enormously frustrating. Simple, repetitive and not very imaginative I'm afraid. **BW**

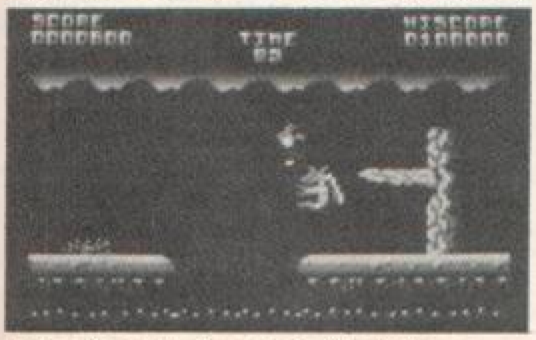
GREEN SCREEN VIEW
No problems

RYGAR

US Gold, £9.99 cass, £14.99 disk, joystick or keys

Well I wondered why I suddenly shivered with deja vu when I played this game, then I twigged. I had played it in the arcade. Do U.S. Gold deal only in arcade conversions, or do they ever come out with something original?

You play the part of Rygar a fearless warrior who is pretty keen on fighting. You must control him as he roams across the lands of the 4.5 billion year old earth searching for a good fight. He will be confronted by reptiles, warriors and animals as well as surprisingly vicious flying flowers! You must kill them with your gun. The catchphrase with this game is "Let's fight" but it's no combat game. You are just firing constantly at oncoming nasties.



He leaps through the air zapping anything that moves

Quite often a little mound will appear on the floor which you can shoot. Once shot an object will appear which you can pick up by walking over it to increase your score. When you reach the end of each level your time remaining will be turned into a bonus score along, with the number of beastie boys you have killed. Each subsequent level gets harder with more and faster nasties.

The graphics are comparable to the rest of U.S. Gold's conversions in that they are quite colourful but lacking in clarity. The controls are easy to master and the sweat will run from your pores in some of the harder situations. The sound effects are quite good. The most annoying feature is the collision detection. It cheats! It's so unfair.

I am definitely going to keep this one and I will play it quite often. I know what you're thinking but it's not because I'm tight, it's because I quite enjoyed it as a game. It's easy to get into with a good difficulty increment. Let's play. **CJB**

SECOND OPINION

There's a nice tune that plays throughout the game, but unfortunately there's little else going for it. Small graphics and no real incentive to play. It's far too easy and lacks variety. There are even silly features like being able to pause in mid-air after jumping, and then move forward again. **GBH**

GREEN SCREEN VIEW
No visibility problems.

The Verdict

GRAPHICS 66%
- □ Fast and furious animation.
- ■ Characters are small and indistinct.

SONICS 68%
- □ Good sound effects.

GRAB FACTOR 53%
- □ Easy controls.
- ■ Annoying collision detection.

STAYING POWER 61%
- □ Many different screens.
- ■ No variation in action.

AA RATING 56%
- □ Not a bad conversion from the arcade.

FIRST DAY TARGET SCORE
50,000 points

ANARCHY

Hewson, £2.99 cass, joystick or keys

There are 16 levels which are several screens wide and filled with explosives and weapons which you must shoot. When all have been destroyed you make you way to the exit and go to the next level. Inside the mazes there are rebel forces which are out to get rid of your five lives. There's something about this game that makes it incredibly addictive.

The Verdict

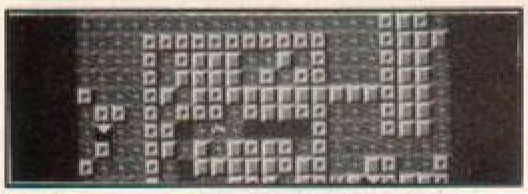
GRAPHICS 56%
- □ Good use of colour on the backgrounds.
- ■ At the start of a level you often can't see your tank.

SONICS 78%
- □ Brilliant title tune gives an arcade sound.
- □ Sound effects are almost musical.

GRAB FACTOR 74%
- □ Fiendishly addictive and frustrating in much the same way as *Boulderdash*.
- □ You can skip to later screens when you've mastered the first few.

STAYING POWER......68%
- □ 16 levels of increasing difficulty.
- ■ Once completed you won't want to play it again.

AA RATING 74%
- □ For the price it's well worth considering.





STAR WARS

Domark, £9.95 cass, £14.95 disk, stick or keys

The arcade game was out several years ago and was a fast and furious shoot-em-up. The computer game has the features of the arcade without the digitised speech. The game itself is not too bad, but the format is very old. *Starstrike* from Realtime was virtually the same game, more fun to play and is over two and a half years old – 'nuff said.

The Verdict

GRAPHICS 43%
- ■ Old style vector graphics.
- ■ Not much colour used.

SONICS 40%
- □ Title tune is good.
- ■ In game effects are the sound of laser fire and explosions.

GRAB FACTOR 52%
- □ If you liked the arcade game this should appeal to you.
- ■ The game's very old and shows it.

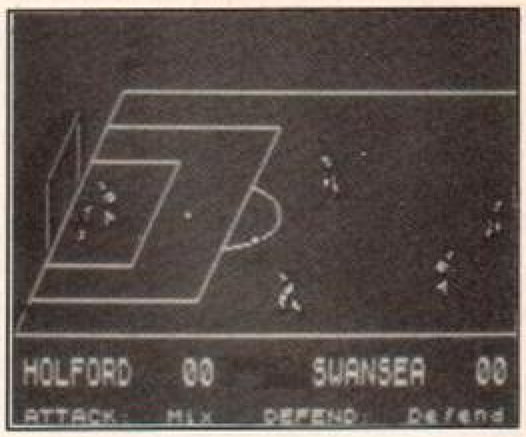
STAYING POWER......38%
- □ Difficulty increases as you destroy more and more Death Stars.
- ■ Very tedious gameplay, little variation.

AA RATING 44%
- ■ Doesn't live up to all that hype.

GARY LINEKER'S SUPERSTAR SOCCER

Gremlin, £9.99 cass, £14.99 disk, stick or keys

This is a combination of the football strategy game and arcade style action games. Strategic play is in the form of buying players, training



A goalmouth scramble

your team and picking your squad. When you finally play a match you can choose whether to watch the match or just have the result. If you play the match you can be the centre forward and/or the coach. There are some bugs in the program, an invisible ball is one example.



The Verdict

GRAPHICS 65%
- □ Nice match highlights.
- ■ No other graphics.

SONICS 16%
- ■ The whistle gets blown.

GRAB FACTOR 63%
- □ Football strategists will find something to enjoy.
- ■ Don't play a game at normal speed, it's 90 minutes.

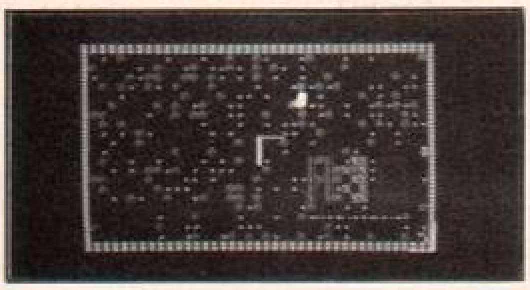
STAYING POWER......72%
- □ A long term objective of heading for the top of the 1st division.
- ■ Works better as a strategy game than an arcade action game.

AA RATING 66%
- □ A good try at mixing the two types of football game.

BOULDERDASH CONSTRUCTION KIT

Databyte, £9.95 cass, £14.95 disk

Boulderdash was a *Rave* way back in issue 1. Rockford returns with sixteen new caves supplied and as many as your devious mind can dream up, with the construction part of the program. Using the kit is simplicity and you'll soon be designing puzzles to baffle your friends. If you didn't like *Bouldedash* then you probably won't like this, everyone else can sit down knowing that you're going to have nightmares working out how to solve a problem.



The Verdict

GRAPHICS 78%
- □ Simple graphics, but they don't detract from the game.
- ■ Scrolling of the screen is jerky.

SONICS 67%
- □ Nice title tune.
- ■ Spot effects are a bit crude.

GRAB FACTOR 68%
- □ It's just as addictive as *Boulderdash* was
- □ Creating caves adds to the fun.

STAYING POWER......76%
- □ Sixteen caves are supplied already.
- □ And an infinite number can be created.

AA RATING 70%
- □ Worth the asking price.
- ■ But looks long in the tooth these days.

How do I get into all those jewels ?


LAZER Tag
"I know what you're thinking, did I fire six shots or only five?"....
Transport yourself to the year 3010 where competition and sport have replaced blood thirsty lust for violence and confrontation. Yes, you'll experience the danger of combat. Yes, you'll feel the rush of adrenalin as you face your challenge. But this battlefield does not render injury, it creates a fever pitch atmosphere of nerve jangling exhilaration and pulsating excitement. Sharpen your reflexes and test your energy levels as one round of Lazer Tag makes the ultimate demands of concentration and skill on your mind and body alike.
Six tags and you're out!
SPECTRUM £8.99t
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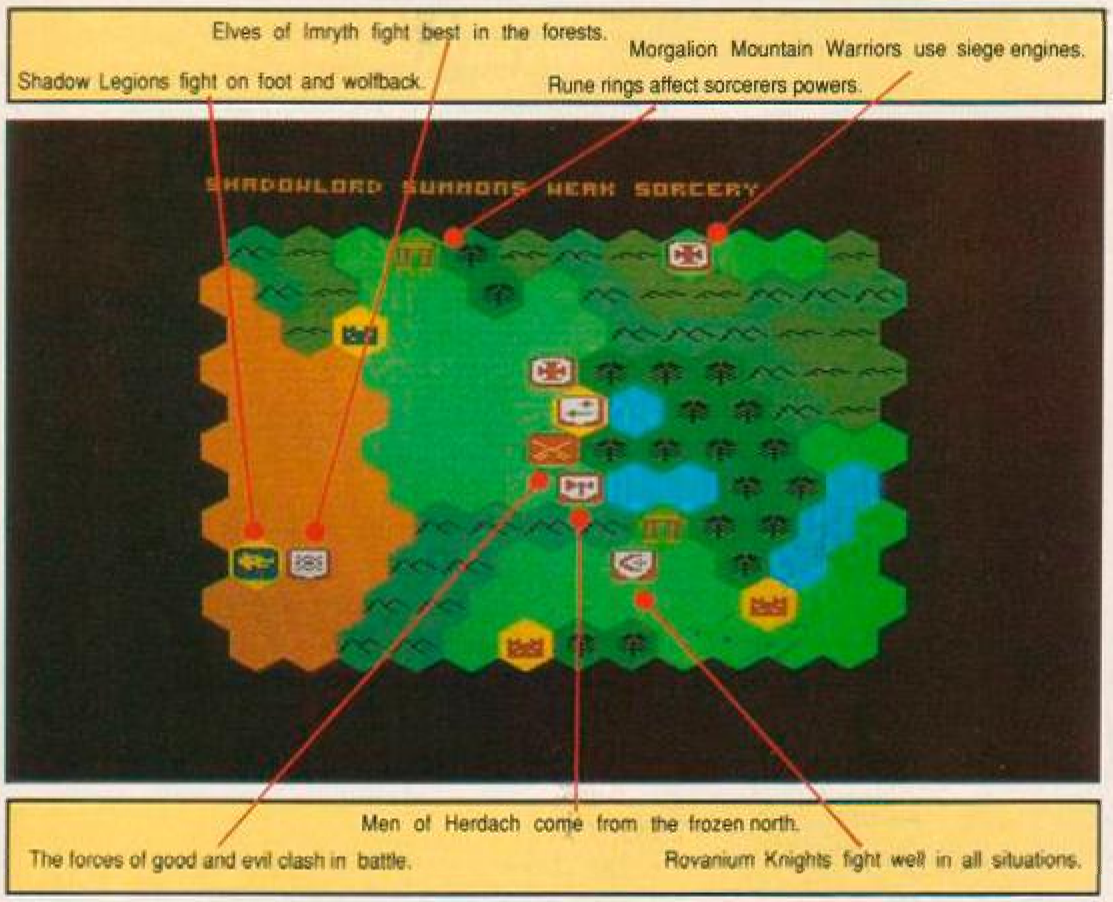
SORCERER LORD

PSS, £12.95 cass, £17.95 disk, keys only

Back in issue 11 we reviewed *Battlefield Germany* and now there is another game by the same author. It's a one player game that uses basically the same play-system as *Battlefield Germany*, but set in a Tolkien-like realm of fantasy where sorcery now plays its part.

The battle takes place in the mythical land of Galanor. Galanor has been invaded by the evil forces of the Shadowlord and you control the nations of Imryth, Savantor, Morgalion, Herdach and Rovanium.

At the beginning of the war you control few armies and your first objective is to alert all of your potential allies of the threat of invasion. To do this you merely enter the fortress or citadel of the army that you want to join you. While you are gathering your forces the Shadowlord's armies are descending from the north destroying all who stand in their path.



Imryth is the land of the Elves, the lords of the forests. They are the finest archers and move swiftly through woods. The Barbarians of Savantor are masters of horses and they have no foot warriors. The deserts and plains are home to them and here they fight at their best. Morgalion is home to the Mountain Warriors. These sturdy folk are skilled in siege warfare and take with them siege engines to help in the capturing of fortresses and citadels. Out on the open plains they feel insecure and don't fight as well. The men of Herdach are cousins of the Morgalion's and they occupy the colder northern regions of Galanor. The men of Herdach and Morgalion fight only on foot. The men of Rovanium are both foot and mounted soldiers. The mounted troops are fewer in number, but they are heavily armoured knights. Some Rovanium leaders are skilled in the arts of sorcery.

Armies of the Shadowlord come in foot and mounted varieties. Both fight well and fatigue less easily than men. Shadow Legions are commanded by evil men who often possess the power of sorcery. The Shadow Legions suffer less from terrain and have the power to travel across water.

Sorcerers can summon demons to their aid to help them in battle. The power of sorcery

DAN DARE II

Virgin, £8.95 cass, £14.95 disk, joystick or keys

In this sequel to *Dan Dare* the Mekon again has a despicable plan to wipe out life on Earth. He has developed a race of Supertreens with his genetic experiments. This time around you can be either Dan Dare or the Mekon. Nice to be the bad guy for once.

The fate of the Earth is in your hands and it will be decided inside the Mekon's battleship. The battleship is divided into four levels which are connected via blast doors. Blast doors are impervious to lasers and explosions. To open them you must kill all of the Supertreens on a level if you are Dan Dare or activating them all if you are the Mekon. Killing or activation of the Supertreens involves shooting their life support system. Forcefield generators appear throughout the battleship and these must be deactivated by shooting them to allow access to other parts of the level.



Two Supertreens bite the dust.



Other than Dan and the Mekon there are also Treens and Spacefleet forces fighting each other. The combat goes on continually and you have to take care not to get caught in the crossfire. Hits from lasers deplete your energy and if it run out you lose one of six lives. Lives are also lost if you get stuck in a garbage dis-

SECOND OPINION

The sequel has much the same qualities as the original. There's plenty to shoot and explore, and although it starts off difficult you can quickly start to get somewhere in the game. I don't think the graphics are quite as atmospheric as the original's, but they are still varied and attractive. Nice touch that you can play the Mekon, which you can try after completing the game as Dan. **BW**

GREEN SCREEN VIEW

The graphics aren't as pretty, but the game plays just as easily.

is in five levels. Weak sorcery summons no demons, but the weather changes to the benefit of the sorcerer. Mild sorcery summons a single minor demon and strong sorcery summons several minor demons. Very strong sorcery summons a single major demon and devastating sorcery summons a horde of demons. The power of the sorcery is dependent on two factors: the power of the sorcerer and the distance to the nearest rune ring. Rune rings are stone circles that appear throughout Galanor.

There are five phases to a game turn: Shadowlord movement phase, Shadowlord combat, Galanor allies, Galanor movement and Galanor combat. During the movement phases each army is allowed to move with normal or forced march. Forced marching gives armies a great number of movement points, but increases their fatigue. Combat occurs whenever you and your enemy occupy the same hexagon. Fortresses and citadels help the defender and the terrain also affects the combat of the troops. The allies phase is when more of the Galanor forces get mobilized or reinforcements arrive at mobilized fortresses and citadels.

If you start a turn in a fortress or citadel then you can use the garrison option to either station or recruit troops. Other options allow you to get a war report, display a strategic map, display the terrain type or end your turn. The war report shows you the number of casualties and who is controlling which fortresses, citadels and rune rings. The strategic map comes in two forms: terrain and nations. The terrain map is colour coded to show the terrain types and the nation map shows the national boundaries. On both maps the position of all mobilized units is shown.

To win the game you must control all of the Galanor fortresses, citadels and all eight rune rings for a period of twelve turns. The Shadowlord wins if the citadel of Yarthros of Rovanium is captured by the Shadow Legions.

Colour is used well to show the different terrain and army types. The graphics are simplistic and there is no animation, but this is typical for strategy games. Sound is simply beeps and buzzes. The game comes well packaged with a map, key summary and a detailed instruction booklet.

Strategy games have never been particularly popular, which is unfortunate because they usually take longer to master than arcade games. This is one of the better strategy games and is worth considering even at the high price. The only complaint that I have is that if Shadowlord forces are on the water then you can not attack them because you are unable to cross water. **GBH**

SECOND OPINION

A delightful mixture of the sort of fantasy tale usually reserved for adventures and a good old fashioned wargame. It's a bit tricky working out a winning strategy but thoroughly absorbing while you're doing it. My only worry is that there aren't enough scenarios or variation in the Shadowlord's behaviour to present a large long term challenge. Nevertheless it's great while it lasts. **BW**

GREEN SCREEN VIEW

The strategic maps are difficult to interpret in green, but the rest of the game is easy to identify.

FIRST DAY TARGET SCORE

Victory at beginners level.

The Verdict

GRAPHICS 70%
- □ Good use of colour.
- □ Easy to recognise everything.

SONICS 06%
- ■ Hardly worth the effort.

GRAB FACTOR 84%
- □ Well packaged with map and atmospheric booklet.
- ■ The fact that it's a wargame may put people off.

STAYING POWER 80%
- □ Three difficulty levels.
- □ You'll be wanting just one more go at defeating the Shadowlord.

***AA* RATING 81%**
- □ An intriguing game that will keep you occupied for many long hours.

---

posal unit and are crushed. Loss of a life returns you to the start screen of the level. Bonus lives are awarded every 50,000 points.

The Verdict

GRAPHICS 84%
- □ Great explosions.
- □ The Mekon and Dan look good too.

SONICS 28%
- ■ No tunes and the effects are poor.

GRAB FACTOR 82%
- □ Flying around and zapping your enemies is enjoyable.
- ■ A few plays makes the game seem very frustrating.

STAYING POWER 74%
- □ Four large levels full of enemies to kill.
- ■ A bit too simple to complete the game.

***AA* RATING 78%**
- □ A good follow-up that will keep fans of the original very happy.

Completing a level depends on whether you are Dan or the Mekon. If you are Dan then as soon as you shoot the first Supertreen a countdown begins. You must then eliminate all of the other Supertreens on the level and reach the blast doors to the next level, before the time runs out. The Mekon has a time limit to start with and he must activate all of the Supertreens and reach the blast doors before time runs out – a much harder task. If you fail to complete a level before you run out of time then the game ends. The final level has an escape pod which will only allow a Venusian life form inside and this could pose a problem for Dan. It also needs the portable operation unit before it can be used.

Control of Dan or the Mekon is not easy since the battleship has an artificial gravity which means that the only way to stay in one vertical position is by alternating between pushing up and not pushing up on the joystick. The time limit to complete each level leaves little room for error and if you accidentally get sucked down a tube, or lose a life once the countdown has begun, then you are unlikely to complete the level.

There are no tunes, not even a title tune and the sound effects are simple and of just the right frequency to irritate people. The graphics on the other hand are superb, they are bright, colourful and well animated. The explosions even look explosive – it's a pity that they're silent.

At first sight this looks an easy game, after a little play you're convinced that it's impossible, and after more play it seems to be too simple to complete. The only problem is the time limit on each level and practice will soon provide you with a route to complete the game. Definitely a game to be mapped.
GBH

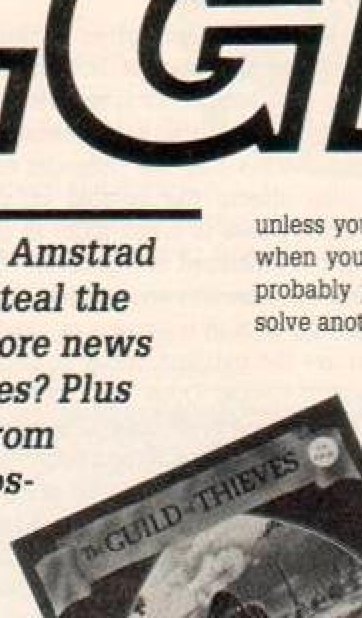
FIRST DAY TARGET SCORE

Complete level 2 as Dan.



THE PILGRIM

At last! The Pilg gets stuck into the Amstrad version of Guild of Thieves. Can it steal the limelight from Infocom, of whom more news (not all bad) on these hallowed pages? Plus Acheton from Topologika, Venom from Mastertronic, hints, tips, and hot gossip...



Guild of Thieves

Magnetic Scrolls/Rainbird £

Rainbird seem to be rather slow in bringing out Amstrad versions of adventures these days. Guild of Thieves first saw the light of day back in June 1987 and it's only become available for CPC owners in the last few weeks. Was it worth the wait?

Well, it all depends whether you fancy a game with an excellent parser, superb graphics, challenging puzzles, and inventive locations. You do? Then make no mistake, this is the game you should be splashing out on.

The Pawn made quite an impact on Amstrad adventuring. Although we've been treated to Level 9 titles without exception, Infocom (see elsewhere in this issue) have had a rather shakey presence on the Amstrad market. *The Pawn* was an all-British, impressive state-of-the-art game, from a company who never gave the impression of supporting the Amstrad machines anything less than 100%. Now we've got their second title, and their support becomes all the more valuable because of it.

First, Guild improves on the *Pawn* in every category. The plot is simpler (collect treasure) and less quirky, making it more appealing to those of us who found the *Pawn* a mite too weird for our tastes. The graphics are, believe it or not, even better. They've translated excellently from the 16-bit versions and some of the locations are positively mouthwatering.

In addition, the parser is improved (though with one or two quirks – see later) and although there are less human characters to encounter the puzzles themselves are, to my mind, more satisfying. There's a perfect blend between the simple, the subtle, and one or two perfect swines that take a lot of lateral thinking to solve.

Finally, the game runs on both a 6128 and a 464 with DkTronics memory expansion, so it's open to more of us than some of the more recent (and harder to find) Infocom titles.

Entry to the Guild

Membership of the Guild of Thieves requires that successful applicants complete a gruelling test of their kleptological skills. Simple stuff, really – confronted by an item of value, you don't even have to know that the word "kleptology" doesn't exist to thrust it into your pack and transport it to the nearest night-safe, thereby increasing your score.

You start the game in a boat with a member of the Guild and from the moment you reach the shore you must go all out to ensure that not a single treasure remains unbanked. The landscape is terrific – a large country house to explore, a temple with a network of underground caves, a fairground, and a windmill, all concealing loot of every possible description.

Every time you bank a treasure, your score will go up. Regular saves are necessary as you dice with death, either at the hands of other characters or of Mother Nature. She's definitely red in tooth, claw, and coal in this game, so don't mess with the spider or dally on the glowing coals unless you know what you're doing. And there's also the possibility that when you bank an item your score **doesn't** go up, which means you've probably just banked an object you're going to need badly later on to solve another puzzle. Oops.

Parsing is almost faultless. You can address other characters (though they aren't all that communicative) and perform miracles with containers. Relative positioning is also included, which means you can look under a bed, on a bed, or even behind a bed. This isn't implemented on most other games and the Pilg finds it adds a lot to the feeling of "being there" while you're playing.

There's also a GO TO command, which allows you to GO TO a named location. You have to use this with care, however, because you can die if the route chosen by the program leads you via a fatal hazard (of which there are several in the game). The Pilg has just finished playing a 16-bit version of Magnetic Scrolls' latest game, *Jinxter*, in which the GO TO command has been withdrawn, possibly for this very reason. It is however extremely useful in certain circumstances – going from one room to another in the mansion, for example.

Great game, great graphics, what more can you want? Except possibly to receive an Amstrad copy of *Jinxter* a little quicker than the long wait we endured for *Guild*.

Atmosphere	**89**	**Challenge**	**84**
Interaction	**90**	**Overall**	**89**

Acheton

Topologika £

The Pilg likes a company that's got guts. After seeing some of their titles slagged off by the Cruel Crusader a couple of issues back, Topologika are leaping back into the fray with this disk-based search, solve, and steal game. Can it restore their reputation?

Hmmm...Difficult to say really, so I'll put the case to you straight and let you judge for yourself. The Pilg first encountered this game back in days of yore when it appeared for the BBC. Disk-only games were something of a rarity in those days and *Acheton* received a fair amount of acclaim as a *Colossal Cave* derivative with more than its fair share of textual description.

I was struck on playing it again how much of the game I remembered, evidence of its powerful atmosphere and original puzzles. On the other hand, I was also struck by the extreme primitiveness of the parser, which apart from the refinement of GET ALL and GET ALL EXCEPT... is remarkably unsophisticated.

Peter Killworth of Topologika has already written in defending the absence of EXAMINE in their parser, but to be honest I can't believe many adventurers would agree with him. It's not so much the importance of the word for the development of puzzles, but its presence serves as a natural foil to the inquisitive nature any adventurer who feels the urge to look more closely at anything he/she finds.

Other slight annoyances are the parser's habit of rejecting whole phrases when it doesn't understand one of the words used, so on receiving (for example) the response:

I don't understand "Clean the coat"

...you're left uncertain which word is causing the trouble (of course it may be all of them).

Additionally, the (now rather old-fashioned) technique of scrolling the entire display except the status line when something is printed or entered means that old descriptions rapidly disappear from sight. Since these contain exit details you'll want to reprint them frequently by typing LOOK, and the program doesn't accept the abbreviation L.

OK, enough griping about the parser. But the fact is that the structure of the parser determines to a large extent the structure of the game. Its simplicity means, in *Acheton*'s case, that the gameplay is confined to finding and using objects and mumbling the occasional magic word. You don't have to wheedle information out of other characters, you don't have to look underneath things, and most of the time you don't have to use more than two words in your inputs.

Despite these shortcomings, the game does have considerable atmosphere. It's really a shameless *Colossal Cave* derivative, right down to the magic words, the chasms, the tunnels, and the syntax. If you want a quality trip down memory lane then this is definitely a good purchase. If you're keener on graphics, characters, and more complex inputs then it's a waste of money.

Atmosphere	**70**	**Challenge**	**85**
Interaction	**55**	**Overall**	**69**

Venom

£1.99 Mastertronic

Well, well, well, this was a surprise for the price. It's a very simple game with only 30 commands (including movement) but its icon control system allows you to combine commands with surprising effect.

The screen display shows a small but attractive graphic display of your location, which is occasionally replaced by a text message giving some historical background to the game. This is useful since (as usual with Mastertronic games) there is very little detail on the cassette cover.

Beside the graphics window is a command window, listing 22 commands over which you can move a highlighting cursor with the joystick. Clicking on SCROLL replaces the lower eight commands with eight further alternatives. All the usual low level options are there, plus a TALK command.

Beneath the text window is a one-line constantly scrolling message display strip that shows available exits and occasionally gives other information. Beneath that is the location description window.

Once you select a command it is either executed immediately (if possible) or, if it requires a direct object, you are given the opportunity of selecting any word from the location window or the 'characters present' window to apply it to. Some commands, like TALK will require both direct and indirect objects, so, for example, you might

(1) Click on TALK
– the computer responds with SAY TO
(2) Click on BASHKA
– the computer responds with SAY TO BASHKA
(3) Click on OPEN
– the computer responds with SAY TO BASHKA OPEN
(4) Click on the word DOOR in the location description
– the computer responds with SAY TO BASHKA OPEN DOOR

...and then, after all that effort, hope for a decent response!

What impressed me about the program was the number of times I **did** get a decent response. For £1.99 it really isn't bad value, though I don't think it scores all that highly in the lasting interest stakes. The quest is the usual "save-the-world-from-the-baddie" scenario, but beggars can't be choosers and it puts some more expensive products I could mention to shame.

Atmosphere	**49**	**Challenge**	**58**
Interaction	**55**	**Overall**	**60**

Lords and Ladies of Adventure

...And here they are, those lucky individuals who have this month reached the exalted heights of Lord-and-Lady-dom. Bow down before them, lesser mortals, and know that they have demonstrated perfect mastery in completing the games listed, and furthermore that they are prepared to render assistance to those less fortunate than themselves.

What you might not realise is that the Lords and Ladies also benefit by making contacts around the world, finding friendship and support in a large adventuring community. If you'd like to put yourself on the map, and help others find their way across it, then write to:

Lords and Ladies, Amstrad Action, 4 Queen Street, BATH, BA1 1EJ.

Meanwhile, if you contact one of the Lords and Ladies for help, don't forget to include a STAMPED addressed envelope. If you're telephoning, make sure you do so during sociable hours, and not after 10pm or before 9.30am.

Mordon's Quest, Forest at the World's End, Jewels of Babylon, Souls of Darkon, Dracula, Emerald Isle, Message from Andromeda, Red Moon, Lords of Time, Magic Sword, Smugglers Cove, Spy Trek, Warlord, Heroes of Karn, Eric the viking, Sebase Delta, Subsunk, Guardian, Robocide

Mrs Shirly Wall, 38 Glebelands, Westfield, Radstock, Bath, Avon. Tel: 0761 33396

Boggit, Fourth Protocol, Forest at Worlds End, Jewels of Babylon, Kentilla, Knight Tyme, The Mural, Quest for the Holy Grail, Redhawk, Seabase Delta, Spellbound, Star Wreck, Terrormolinos, Twin Kingdom Valley, Wild Bunch

Liad Levi, 78 Braybrook, Orton Goldhay, Peterborough, PE2 0SJ Tel: (0733) 235423

The Sydney Affair, Kentilla, Boggit, Aftershock, Subsunk, Wild Bunch, Seabase Delta, Imagination, Questprobe III, Worm in Paradise, Message from Andromeda

Chris Muff, 49 Renway Road, Broom Valley, Rotherham, S Yorks, S60 3EU Tel: (0709) 373074 between 4pm and 10pm only.

Enchanter, Sorcerer, Spellbreaker, Zork 1,2,3, Infidel, Leather Goddesses of Phobos, Adventure Quest, Aftershock, Angelique a Grief Encounter, Arnold Blackwood Trilogy, The big Sleaze, Black Fountain Pts 1 & 2, Bugsy, Castle Blackstar, Cursed be the City, Dracula, Dungeons Amethysts Alchemists'n'Everything, Escape from Khosima, Espionage Island, The Hermitage, Heroes of Karn, Hunchback, Fantasia Diamond, Forest at Worlds End, Gremlins, Haunted House, Imagination, Inca Curse, Jewels of Babyon, Kobyashi Naru, Lords of Time, Mansion, Morden's Quest, Message from Andromeda, Mindshadow, Monsters of Murdac, Mountains of Ket, Nova, Never Ending Story, Nythyhel, Planet of Death, The Pawn, Rebel Planet, Robin of Sherwood, Robocide, Seabase Delta, Sharpes Deeds, Ship of Doom, Souls of Darkon, Spytrek, Subsunk, Theseus, Top Secret, Very Big Cave Adventure, Winter Wonderland, Star Wreck, Lifeterm, Warlord

Graham Wheeler, 2 Burford Close, Southdown, Bath, Avon, BA2 1JF Tel: (between 10pm and midnight only) Bath (0225) 26919

Dracula pts 1 & 3, Spytrek, Snowball, Mission 1, Heroes of Karn, Forest at Worlds End, Message from Andromeda, Jewels of Babylon, Spellbound, Knight Tyme, The Hobbit, The Boggit, Bored of the Rings, Subsunk, Trapdoor, Mordon's Quest, Espionage Island, Vera Cruz, Mindshadow, Fantasia Diamond, Terrormolinos, Top Secret

Iain Purdie, 56 Lyndhurst Grove, Low Fell, Gateshead, Tyne and Wear, NE9 6AX Tel: (091) 487 5788

Pilgrim Post

Will I be prosecuted?

Please! Could you give me some advice. I am at the moment creating an adventure game using GAC and would like to know if I could be prosecuted by companies if various characters, places, etc from real life appeared in my game.

Michael Dickinson, 281 Tyldesley Road, Atherton, M29 9AL

Interesting point, Michael. I'm not a lawyer, so first let me stress that if you are really contemplating releasing a game featuring real characters then you should seek proper legal advice.

Very briefly, however, I suspect that the only laws you need to bother about are those regarding copyright, libel, and trade marks. So you must beware of:

1) Including passages of text in your game which are someone else's copyright.
2) Defaming someone's character either openly or by implication.
3) Using names or phrases that are registered as trade marks.

Number 2 is particularly important. The point is that you don't actually have to say anything rude about someone to be accused of being defamatory. For example, if you wrote a game about immoral sexual practices and included the Prime Minister in it then the PM might claim that simply by including her in such a context you had cast aspersions on her character, even if she behaved quite blamelessly in the game itself. This is a murky area of the law and the general rule is that if you can't be good, be very careful.

Number 3 is often overlooked. A company can register a trade mark (for example, the word AVALON is a registered trade mark) and the law then gives them some protection against other people using the word or phrase without authorisation in certain contexts. Again, legal advice is required.

As a general rule, therefore, anyone publishing a game that

Rod and Staff Monthly

A Newsletter for Wanderers

Edited by the Pilgrim. Price: Free to all Followers of the Straight and Narrow Path
Issue 2

Activision stands firm!
Infocom for CPCs still in doubt.

Clare Hirsch, marketing manager for Activision UK, confirmed that despite the huge protest by Amstrad owners the company was to cease supporting the CPC and PCW markets.

"It's simply a question of sales," said Clare, "and at the end of the day just as we see our sales on STs and Amigas increasing, we also see our Amstrad sales dropping". As a result Amstrad Infocom titles have been dropped from the current Activision catalogue in the UK, although the older titles will still be available via mail order from the company while stocks last.

One word of comfort - the situation is "constantly being reviewed", said Clare, and the Pilgrim is investigating a means by which a regular supply of Infocom titles can be maintained for CPC owners. In the meantime, stay tuned for next month's issue when the Pilg will print a list of titles still available together with price and ordering details.

Level 9 Sign Secret Deal

Level 9 have signed away the distribution of the games to a company whose identity, at the time of writing, remain unidentified. One thing's certain - it's not Rainbird.

"We've found someone with a longer history of involvement in the games business than Telecomsoft", said Pete Austin, who was obviously delighted with the arrangement. A public announcement is expected at about the time that you read this page – check next month's Rod and Staff for further details.

Meanwhile, Level 9 are busy working on Lancelot – the working title for their new game based on the Arthurian legends. It features 250K of text, lots of characters, and faithful adherence to the original legends. The game is designed by Pete Austin and will be available in the Spring of 1988. Watch out for the review on these hallowed pages...

Incentive Launch Super-Generator

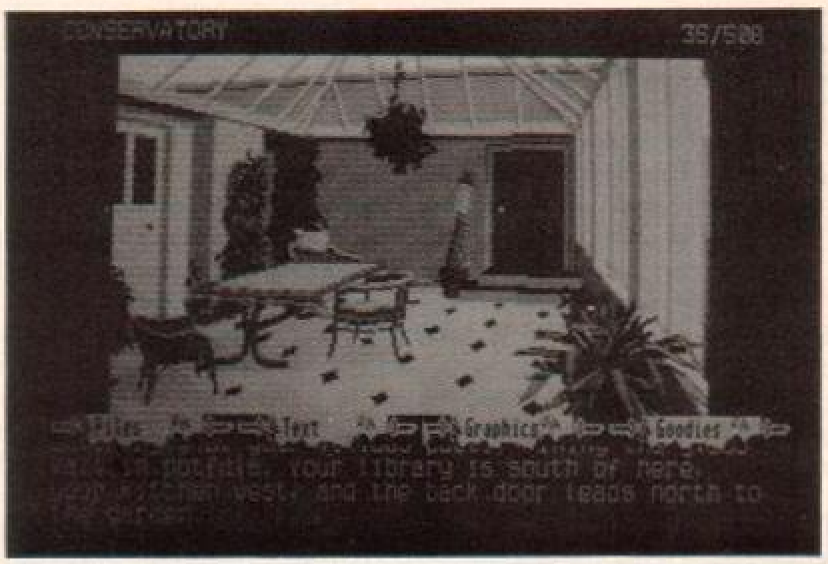
Incentive have cancelled plans for the development of GAC+ and have instead come up with an entirely new adventure development system targetted at 16-bit micros, and the ST in particular. The new system is completely user-definable, including the positioning of multiple windows on screen, and includes powerful parsing and improved character handling facilities.

This is something of a disappointment for 8-bit Arnold owners, but the Pilg reckons that Gilsoft's PAW has got almost everything you need for serious adventure generating on the CPC, and of course it's available NOW. Although a game in the CPC is worth two in the bush and ten on an ST, the Pilg will still keep CPC owners informed about the new Incentive product as an example of things to come.

New Game Coming From Mag Scrolls

Magnetic Scrolls, creators of The Pawn and Guild of Thieves, have just launched Jinxter on 16-bit machines and an Amstrad 6128 version will follow shortly. The game shows several improvements over the earlier releases in terms of plot development, with simple treasure hunting augmented by spell casting and an ingenious system of "guardians" that rescues the player from sudden death, enabling him/her to explore the map without mishap. Full points, however, can only be gained by solving puzzles unaided.

The graphics are, if anything, even better than Guild of Thieves, so keep your beady eyes open for the Pilg's definitive review of the game, which sends you in search of a magical bracelet and the charms that rightfully belong with it. Meanwhile, just to whet your appetites, here's a screenshot from the ST version.



Jinxter on the ST. OK, so it won't look quite this good on the Arnold, but it still promises to set new standards of graphical excellence.

includes references to people, products, or companies in the real world should be careful to take proper advice or, in some cases, face the unpleasant consequences.

GAC Nonplussed??

A question for the Grim Pil...

Any news about the famed GAC+, the sequel to the GAC adventure writing system? You know, the one with the brill graphics facilities, 1000 word locations, disk only, blah blah blah...

My personal view is that Incentive have been too busy with Freescape to bother about it.

Hoping you can enlighten me.

Michael Wong

Yes Michael, I believe the Rod and Staff news room can cast some light on this - see the Rod and Staff Monthly in this issue for more details.

Master Key Missing...

I am stuck. In your column in ACE you printed a clue for *Lurking Horror* – the clue said you have to cook the chinese food to give to the hacker to get the master key. All very well until the master key bit – the hacker takes the food, eats it, then when I say HACKER, GIVE ME THE MASTER KEY, the computer responds THE HACKER DOESN'T SEEM TO BE HOLDING THE MASTER KEY.

But when I type EXAMINE MASTER KEY it says YOU DO NOT SEE ANYTHING OF INTEREST IN THE MASTER KEY and when I type SHOW HACKER MASTER KEY it responds THE HACKER LOOKS AT IT THEN TURNS AWAY...Finally, when I type GET MASTER KEY it responds YOU HAVEN'T SEEN THE MASTER KEY.

Is this just a big bug, or am I doing something wrong?

Daniel Gibson, Jesmond

The Pilg has had several letters about this, so although he is not in the habit of answering postal pleas, here goes...

First, it is a bug of sorts. Or rather a feature. The fact is that Infocom don't like you cheating in their games and they regard knowing about the existence of an object in a game without having previously discovered it as cheating. So if someone tells you there's a master key in the game and you try to GET it without finding it first, you're going to get some rather contradictory responses, as you have done in this case.

If you examine the hacker's key ring, you will not see a master key there. You have to ask him about his keys (of which he is extremely proud – as you will discover) before you can discover the existence of the master key. Once you know where it is, you can start to bargain with him...

Froop merplobs

Od yuo froop htis zamanegi ta ? lal

Issue no 28 is laughable! Between pages 80 and 89 you've managed to duplicate the text about what to do with GROK, put the ratings for Gnome Ranger in the review of Knight Orc, those for Slaine in the review of Gnome Ranger, not given a price for PAW, completely mess up the letters section by printing bits of letters in the wrong places and then go on to list one of the Lords and Ladies of Adventure twice! In all I reckon you lost roughly half a column. Adding insult to injury, there was no Programming with the Pilg.

I don't know what you were on at the time, but can I have the recipe please?

Gerry Milne, London

*What can I say, Gerry, except to offer my most sincere apologies. Last month was a particularly tight one for the Pilg, and his copy arrived very late (*you're not kidding, get lost in a forest did we? – ed*). As a result, the Art Team had to lay out these pages in a great rush to get them to the printers on time...hence the errors. This issue should show a matardic iverpro$ent.*

PS Thanks for the Festive Greetings, and no, I am not related to the gentleman you mention, or even friendly with him.

Finally, many thanks to everyone who has written in to support the Pilg's call for the re-instatement of Infocom games on the Amstrad. See the Rod and Staff Monthly in this issue for further news...

Clue Sniffing with the Pilgrim

Here they are, the keys to success in some of today's toughest games. Add them to your collection, for you never know when your life might depend on the legendary Clue Pot...

This month these clues come to you courtesy of Robert White, Stockwell; Shirly Wall, Bath; Stephen Parkinson, Stoke Newington; Heath McStay, Carluke; Jade Colling, Palmers Green; Liad Levi, Peterborough; and Graham Wheeler, Bath.]

Jewels of Babylon

Shout with the crab in the canyon
Throw the fish to the lion
Throw keg at croc, then lit match at keg
Throw fruit at parrot
Insert rod in door

Red Moon

Horseshoe is W W NW from Yellow Plain
Dagger is W N E NW W from Yellow Plain
Mushroom is E D SE E E SE W N from Yellow Plain
You need leather gloves to get sword from forge
Gas mask, tubing, and flask help you swim under water

The Price of Magik

Herb garden: Pull mandrake, Get knucklebone, Get skull, **Entrance hall** or **East of Attic**: Rub eyebright into eyes. **Oak panelled corridor**: Examine panel; east; pull lever. **Rest room**: Bury bones, Bury skull and knucklebone. **Anti-alcove**: Touch moon. **Watery tunnel**: Bat should chase bloodworm away. **Hall of statues**: Cast BOM at Cherub, Get trumpet. **Temple**: Cast fly at me. **Steps**: Give Golem robes

Worm in Paradise

Don't buy the dagget straight away - it goes down in price by 100 creds each day.

Enter waldroid cocoon to control valdroid and go to the hardware warehouse - the salesdroid will put the valve on the city account.

Roots north of waterfall are triggered by movement - throw things at them and after a few false alarms it will be safe to go north.

Lords of Time

Zone 2: Empty petrol and light it to get mammoth jaw and tusk.

Zone 3: go east until you come to a Tyrannosaurus Rex, go west and it should be following you. Keep going until you meet another dinosaur - they should both kill each other.

Give the leaves to the brontosaurus to get out of the trap.

Shake mirror to get rid of brontosaurus.

Star Wreck

Repair generator, Open Hydrant, Release Beast, Feed crystal to beast, Replace crystal

Infidel

To stop doors closing when you reach them (eg circular room): Get statue. It falls over and breaks, Roll statue to NE door then go SW and get head. Go NE, drop head, go SW,SW and this door stays open. Move the statue and head around to each door in a like manner, so that the weight of the statue operates as a counter-weight.

Rigels Revenge

To get out of the desert, follow tracks when you find the bone.

Clue-potters required! If you've finished a game, it's only a stamp's worth of trouble to help out thousands of other players who may be bashing their way against the brick wall that you found a way around. Get to it! Clues should be sent to:

The Clue Pot, Amstrad Action, 4 Queen Street, BATH, BA1 1EJ.

CHEAT MODE

Dick'n'Gary check out your tips, pokes and game-busting ploys. The best ones win an entire issue's *Raves* and the *Mastergame*. Send your latest gem to: Cheat Mode, *Amstrad Action*, 4 Queen Street, Bath BA1 1EJ

POKE METHODS FOR TAPE

Here is how to input the majority of Cheat Mode tape pokes. The instructions for each poke tell you which of the two different methods to use. If you have a 664 or 6128, first type |tape.

METHOD 1

Rewind the game tape to the beginning. Now type in the poke listing. Then type RUN and press the Enter key. (Don't use the key marked CTRL or Control; that would stop the poke from working.) Press the Play key on the cassette deck, then any key on the main keyboard - spacebar will do nicely. The tape should now start to play through in the normal way.

METHOD 2

For this method you have to skip the first bit of the game program. To do that, start by rewinding the game tape to the beginning. Now type in the listing. Then type CAT and press Enter. Start the tape by pressing Play and then any key. Then watch the screen.

Soon you'll get the message Found *something* Block 1. It doesn't matter what the *something* actually is; this will vary from one game to another. If the Cheat Mode instructions just tell you to skip the first block, you should stop the tape here.

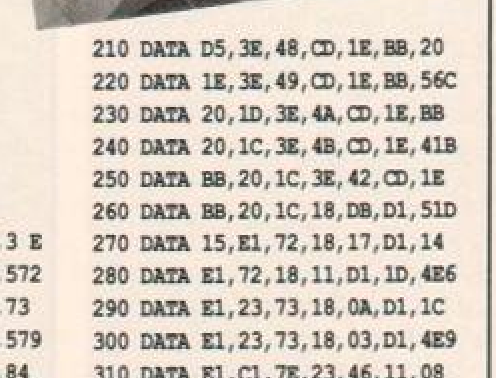
If the instructions tell you to skip several things, stop the tape when the Found message comes up for the last thing you're trying to skip.

Once you've stopped the tape, press Escape, type RUN and press Enter. Now press Play on the tapedeck and any key on the keyboard to start the tape running.

Future Knight

Another poke for infinite lives by **Darren Ash** of Highbridge, this time Gremlin's game gets the infinite lives treatment. Use Method 1 to enter it.

```
1 ' FUTURE KNIGHT-(tape)
2 ' by Darren Ash
3 ' Amstrad Action Feb 88
10 MEMORY &1FFF
20 FOR t=&BE00 TO &BE17
30 READ a$:POKE
t,VAL("&"+a$):NEXT
40 LOAD"",&2000
50 CALL &BE00
60 DATA
21,5d,21,36,c3,23,36,0e
70 DATA
23,36,be,cd,00,20,e5,21
80 DATA
99,07,36,00,e1,d9,37,c9
90 END
```



Spindizzy

Niall Brady of Sligo has sent in this poke for Electric Dreams old *Mastergame*. It gives you a teleport feature which is activated by pressing the "M" key and then moving the cursor around until it's in the place that you want to go. Press ESC to return to the game, and now, when you move off the screen, you will go to the place that you selected. It is entered using Method 1.

```
1 ' Spindizzy - tape
2 ' by Niall Brady
3 ' Amstrad Action Feb '88
10 ln=290:MODE 1
20 FOR addr=&C000 TO &C09A
   STEP 13
30 chk=0
40 FOR n=0 TO 12
50 READ a$
60 a=VAL("&"+a$)
70 POKE addr+n,a:chk=chk+a
80 NEXT
90 READ b$:b=val("&"+b$)
95 IF b<>chk THEN 350
100 NEXT:CALL &C000
110 DATA 21,40,00,11,C0,B0,3 E
120 DATA 6A,CD,A1,BC,3E,80,572
130 DATA 32,72,84,3E,87,32,73
140 DATA 84,32,99,84,3E,D6,579
150 DATA 32,98,84,AF,32,8E,84
160 DATA 3E,C3,32,97,84,3E,5CD
170 DATA 3E,32,8D,84,21,39,C0
180 DATA 11,80,87,01,90,00,444
190 DATA ED,B0,C3,00,B0,21,92
200 DATA 99,56,23,5E,2B,E5,643
210 DATA D5,3E,48,CD,1E,BB,20
220 DATA 1E,3E,49,CD,1E,BB,56C
230 DATA 20,1D,3E,4A,CD,1E,BB
240 DATA 20,1C,3E,4B,CD,1E,41B
250 DATA BB,20,1C,3E,42,CD,1E
260 DATA BB,20,1C,18,DB,D1,51D
270 DATA 15,E1,72,18,17,D1,14
280 DATA E1,72,18,11,D1,1D,4E6
290 DATA E1,23,73,18,0A,D1,1C
300 DATA E1,23,73,18,03,D1,4E9
310 DATA E1,C1,7E,23,46,11,08
320 DATA 00,19,70,2B,77,C9,496
330 DATA CD,09,BB,D2,71,84,FE
340 DATA FC,C2,71,84,C9,00,7D2
350 PRINT"Error in data"
360 END
```

Combat School

Phil Howard of Mapperley has hacked again. This time Ocean's *Rave* game gets the treatment. The poke slows the timer down to give you more time. Enter it using Method 1.

```
1 ' Combat School - tape
2 ' by Phil Howard
3 ' Amstrad Action Feb 88
10 DATA 00,2a,0f,bc,22,1d
20 DATA bd,21,0e,bc,36,c3
30 DATA 23,36,15,23,36,c3
40 DATA c3,1e,32,3e,01,cd
50 DATA 1c,bd,3a,00,be,3c
60 DATA 32,00,be,fe,02,c0
70 DATA 21,2b,be,22,61,34
80 DATA c9,dd,21,5b,a6,11
90 DATA 00,01,cd,ea,a5,21
100 DATA 3e,be,22,0c,a7,c3
110 DATA 85,a6,3e,05,32,2c
120 DATA 04,c3,c7,0e
130 y=0:MEMORY &3000
140 FOR x=&BE00 TO &BE45
150 READ a$:a=VAL("&"+a$)
160 POKE x,a:y=y+a:NEXT
170 IF y<>&194A THEN 220
180 INPUT "Timer 5-10";t
190 ' 5-normal 10- half
speed
200 POKE &BE3F,t
210 LOAD"":CALL &BE00
220 PRINT "Data error"
230 END
```

Ultima Ratio

Darren Ash of Highbridge has sent in this poke for infinite lives in the Firebird budget game. It is entered using Method 1.

```
1 ' ULTIMA RATIO-(TAPE)
2 ' by Darren Ash
3 ' Amstrad Action Feb 88
10 FOR t=&BE00 TO &BE35
20 READ a$:POKE
t,VAL("&"+a$):NEXT
30 CALL &BE00
40 RUN"ultima"
50 DATA
21,38,bd,36,1b,21,38,bc
60 DATA
36,c3,23,36,11,23,36,be
70 DATA
c9,e5,21,1c,be,22,fd,0f
80 DATA
e1,cf,f7,8c,f5,3e,00,32
90 DATA
d9,31,f1,3a,70,29,47,3a
100 DATA
6c,29,3c,fe,04,cc,b8,29
110 DATA 10,f8,32,6c,29,c9
120 END
```



CLASSIC COLLECTION

Monty on the Run

A poke for another old classic by the familiar **Phil Howard** of Mapperley. It's entered using Method 1 and gives you lots of lives.

```
1 ' Monty on the run - tape
2 ' by Phil Howard
3 ' Amstrad Action Feb 88
10 DATA 21,b9,9c,36,b7,c3
20 DATA e9,82,21,6b,42
30 DATA 36,c3,23,36,07,23
40 DATA 36,03,21,40,00
50 DATA e5,21,89,03,e5,c3
60 DATA 40,42,e5,21,36
70 DATA 02,36,05,e1,f1,f3,c9
80 FOR x=&2e9 TO &310
90 READ a$
100 POKE x,VAL("&"+a$)
110 NEXT
120 MEMORY &2000
130 LOAD "monty on the run"
140 CALL &2f1
150 END
```

Commando

We've had lots of requests for a reprint of this poke and so here it is. It works on both tape and disk versions of the game and gives you 255 lives. It is entered using Method 1.

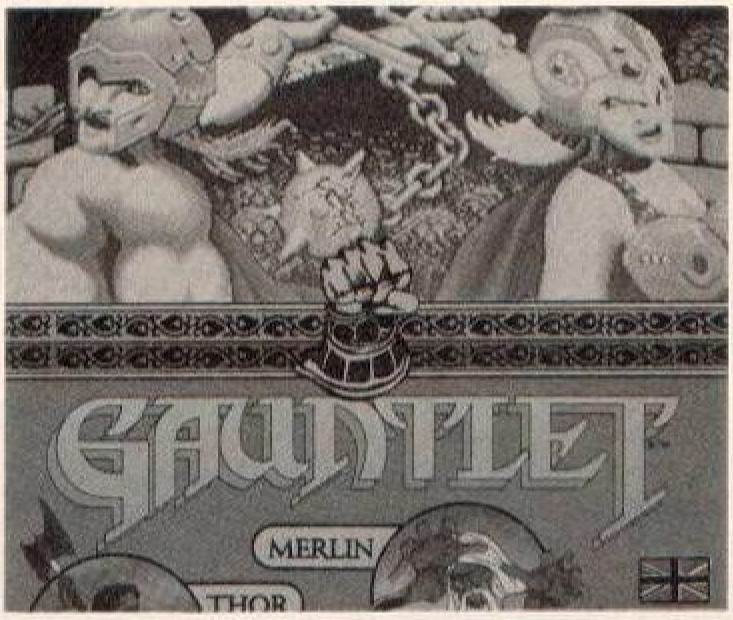
```
1 ' Commando - tape or disk
2 ' Amstrad Action Feb 88
10 MEMORY &5BFF
20 n$=""
30 ?"TAPE OR DISK VERSION
   (T/D)"
40 a$=UPPER$(INKEY$)
50 IF a$="D" THEN n$="com1"
60 IF a$="T" THEN n$="comman
   do"
70 IF n$="" THEN GOTO 40
80 LOAD n$,&5c00
90 FOR a=&9000 to &9012
100 READ b:POKE a,b
110 NEXT
120 POKE &5C33,&C3:POKE
    &5C34,0
130 POKE &5C35,&90
140 CALL &5C00
150 DATA 205,122,188,175,50,
    15,78
160 DATA 78,6,6,33,59,7,119,
    35,16
170 DATA 252,195,54,92
180 END
```



Gauntlet

Tony Hoyle of St Annes sent in this poke for the old *Mastergame*. It's for the cassette version, is entered using Method 1 and gives infinite energy.

```
1 ' Gauntlet Tape
2 ' by Tony Hoyle
3 ' Amstrad Action Feb 88
10 MEMORY &3FFF
20 x=&4000:c=0
30 READ a$
40 IF a$="xx" THEN 120
50 c=c+VAL("&"+a$)
60 POKE x,VAL("&"+a$)
70 x=x+1:GOTO 70
80 READ d
90 IF d=c THEN CALL &4000
100 PRINT"Error in data"
110 STOP
120 DATA 06,00,11,00,c0
130 DATA cd,77,bc,21,70
140 DATA 01,cd,83,bc,21
150 DATA 1b,6a,22,c9,02
160 DATA 21,24,40,11,70
170 DATA 01,01,08,00,ed
180 DATA b0,3e,6b,c3,ef
190 DATA 01,3e,c9,32,95
200 DATA 9b,c3,00,84,xx
210 DATA 4033
220 END
```



The second poke is from our own RpM and is for the disk version of the game. Type it in and save it to a disk other than the game disk. Insert the game disk into the drive, with the write-protect tab off. Run the poke and follow the on-screen prompts to load the game. Note: This poke does alter the game disk, and although the program contains checks to avoid you making any typing errors you should take care typing it in. Having entered the pokes the game will retain the changes when loaded up again, but they can be changed back by running the poke again.

```
1 ' Gauntlet Disk
2 ' by RpM
3 ' Amstrad Action Feb '88
10 MODE 2:INK 0,0:BORDER 0:
   GOSUB 290
20 PRINT"G A U N T L E T
   P O K E S":PRINT:PRINT
30 PRINT"Prevent Generators
   creating the enemy? (Y/N)";
40 a$=UPPER$(INKEY$):IF a$
   <>"Y" AND a$<>"N" THEN 40
50 PRINT a$:PRINT
60 PRINT"Stop yourself dying
   when health reaches zero?
   (Y/N)";
70 b$=UPPER$(INKEY$):IF b$<>
   "Y" AND b$<>"N" THEN 70
80 PRINT b$:PRINT
90 PRINT"Turn enemy invisible
   - only Phantoms will now
   cause damage (Y/N) ? ";
100 c$=UPPER$(INKEY$):IF c$<>
    "Y" AND c$<>"N" THEN 100
110 PRINT c$:PRINT
120 PRINT"Turn yourself invis
    ible -- the enemy is still
    attracted by you (Y/N)? ";
130 d$=UPPER$(INKEY$):IF d$<>
    "Y" AND d$<>"N" THEN 130
140 PRINT d$:PRINT
150 PRINT:PRINT"Is this to
    your satisfaction (Y/N) ?"
160 e$=UPPER$(INKEY$):IF e$
    <>"Y" AND e$<>"N" THEN 160
170 IF e$="N" THEN RUN
180 PRINT:PRINT"INSERT THE GA
    UNTLET DISK INTO DRIVE A
    WITH THE WRITE-PROTECTION
    OFF"
190 PRINT:PRINT"Press a key
    when ready...":CALL &bb18
200 CALL &4000:a=&613a:b=&613d
    :c=&611b:d=&611e:e=&cd
210 a=&613a:b=&613d:c=&611b
    :d=&611e:e=&cd
220 IF a$="Y" THEN POKE a,0:
    POKE a+1,0:POKE a+2,0 ELSE
    POKE a,e:POKE a+1,&b5:POKE
    a+2,&8c
230 IF b$="Y" THEN POKE b,0
    :POKE b+1,0:POKE b+2,0 EL
    SE POKE b,e:POKE b+1,&20:
    POKE b+2,&94
240 IF c$="Y" THEN POKE c,0
    :POKE c+1,0:POKE c+2,0 EL
    SE POKE c,e:POKE c+1,&f0:
    POKE c+2,&a2
250 IF d$="Y" THEN POKE d,0
    :POKE d+1,0:POKE d+2,0 EL
    SE POKE d,e:POKE d+1,&13:
    POKE d+2,&87
260 CALL &401f
270 PRINT:PRINT"POKES NOW S
    AVED TO DISK":PRINT:PRINT
    "Press a key to play game"
280 CALL &bb18:|CPM
290 FOR z=&4000 TO &4064:RE AD
    y$:POKE z,VAL("&"+y$)
300 x=x+VAL("&"+y$):NEXT z
310 IF x<>7668 THEN PRINT"
    ERROR IN DATA":STOP ELSE
    RETURN
320 DATA 21,5d,40,cd,d4,bc
325 DATA 22,5e,40,21,61
330 DATA 40,cd,d4,bc,22,62
335 DATA 40,21,00,60,1e
340 DATA 00,16,18,0e,11,df
345 DATA 5e,40,c9,21,00
350 DATA 60,1e,00,16,18,0e
355 DATA 11,df,62,40,21
360 DATA 00,70,1e,00,16,1c
365 DATA 0e,11,df,5e,40
370 DATA 3e,29,87,32,0c,70
375 DATA d6,02,32,0d,70
380 DATA d6,03,32,0e,70,1e
385 DATA 00,16,1c,0e,11
390 DATA 21,00,70,e5,d5,df
395 DATA 62,40,d1,e1,0e
400 DATA 12,df,62,40,c9,84
405 DATA 00,00,07,85,00
410 DATA 00,07
420 END
```



Dan Dare

Patrick Connolly of Clogherhead has sent in this poke for Virgin's *Rave* game. It's entered using Method 1 and gives you infinite lives, but will only work on side A of the tape.

```
1 ' Dan Dare - tape
2 ' by Patrick Connolly
3 ' Amstrad Action Feb 88
10 DATA 21,40,00,11,00,10
20 DATA 3e,16,cd,a1,bc,c3
30 DATA 40,00,3e,c9,32,58
40 DATA 7c,c9,18,f8
50 FOR x=&bd23 to &bd38
60 READ a$
70 POKE x,VAL("&"+a$)
80 NEXT
90 CALL &bd23
100 END
```



The Duct

Kevin Bryant of Newbury has sent in this poke for last months cover cassette game. It gives you infinite shields and fuel. One minor fault that occurs only on duct one is that must drive through the triangles or the game will end. From duct two onwards the fault is rectified. It is entered using Method 1.

```
1 ' The Duct - tape
2 ' by Kevin Bryant
3 ' Amstrad Action Feb 88
10 MODE 1
20 LOAD"!",&C000
30 a=&BE80
40 WHILE a$<>"02"
50 READ a$:POKE a,VAL("&"+a$)
60 a=a+1
70 WEND
80 CALL &BE89
90 DATA cd,32,56,3e,ff
100 DATA 32,cd,60,c9
110 DATA 3e,2c,21,00,c0
120 DATA 11,00,40,cd
130 DATA a1,bc,3e,2c,21
140 DATA 00,01,11,87
150 DATA 9c,cd,a1,bc,21
160 DATA 80,be,ed,63
170 DATA d7,53,c3,a5
180 DATA 52,02
190 END
```

For all of you out there who have transferred *The Duct* to disk. It does the same as above and thanks go to Kevin for finding the addresses to be poked.

```
1 ' The Duct - disk
2 ' Amstrad Action Feb 88
10 FOR n=&BE80 TO &BE91
20 READ a$:a=VAL("&"+a$)
30 POKE n,a
40 NEXT
50 DATA CD,32,56,3E,FF,32
60 DATA CD,60,C9,21,80,BE
70 DATA 22,D7,53,C3,A5,52
80 LOAD"the-duct.bin"
90 POKE &A0AA,&89
100 POKE &A0AB,&BE
110 CALL &A07B
120 END
```

Agent X II

Tommy Caddick of Pemberton has sent in the passwords for the other two parts of the Mastertronic budget title. They are "LOUDHAILER GOOSE" and "PITIFUL LOBSTERS".

How to win an ENTIRE ISSUE'S rave software!

The winners of this months *Rave's* and *Mastergame* is **Darren Ash** of Highbridge for his pokes. The runners up who will get a *Rave* or the *Mastergame* are: **Phil Howard** of Mapperley for his two pokes, **Niall Brady** of Sligo for his *Spindizzy* poke and **Patrick Connolly** for his *Dan Dare* poke.

DRILLER

7 Driller – the Pokes

Phil Howard of Mapperley has sent in this poke for infinite shields and energy for the tape version of Incentives *Mastergame*. It is entered using Method 1.

```
1 ' Driller - tape
2 ' by Phil Howard
3 ' Amstrad Action Feb 88
10 DATA 21,2d,ad,36,c3,23
20 DATA 36,0e,23,36,be,c3
30 DATA 00,ac,c4,14,ac,fb
40 DATA 3e,00,32,b0,68,32
50 DATA 55,67,32,f4,6b,32
60 DATA 87,6d,c9,21,00,40
70 DATA 11,00,08,3e,16,cd
80 DATA a1,bc,21,7f,41,36
90 DATA 8f,21,cc,41,36,b3
100 DATA 21,2c,42,36,f9,c3
110 DATA 05,40
120 y=0:MODE 1
130 FOR x=&BE00 TO &BE3D
140 READ a$:a=VAL("&"+a$)
150 POKE x,a:y=y+a:NEXT
160 IF y<>&16D1 THEN 180
170 CALL &BE21
180 END
```

Using the addresses supplied by **Phil Howard**, GBH and RpM came up with this poke for the disk version which does exactly the same.

```
1 ' Driller - disk
2 ' by RpM,GBH and Phil
  Howard
3 ' Amstrad Action Feb 88
10  DATA 11,00,00,0E,41,21
20  DATA 00,01,DF,a6,be,21
30  DATA 94,be,22,3D,02,C3
40  DATA 00,01,F5,AF,32,B0
50  DATA 68,32,55,67,32,F4
60  DATA 6B,32,87,6D,F1,C3
70  DATA 9F,48,3C,C0,07
80 chk=0
90 FOR x=0 TO &28
100 READ a$:a=VAL("&"+a$)
110 POKE x+&BE80,a
120 chk=chk+a
130 NEXT
140 IF chk<>3982 THEN 180
150 PRINT"Insert Driller disk
and press space"
160 WHILE INKEY (47)=-1:WEND
170 CALL &BE80
180 PRINT"Data error"
190 END
```

Driller – the Tips

In Amethyst there is a tower with a block on top of it. If you land on this in the jet then your shields and energy will receive a dramatic boost.

Also in Amethyst there is a store shed. Shoot the pyramids on the floor first because the suspended ones have special properties.

The number 17 on the wall in Obsidian means that you must clear 17 sectors of gas before the switch will appear.

To cross the crevasse the block needs to be shot or pushed over it. Pushing it over gives a better score. The shed has a rear entrance and it is safer to enter through that.

To travel from Amethyst, through Lapis Lazuli and into Emerald you must first shoot the pyramids in Lapis Lazuli. Move through the gaps that you have created until you reach the wall. Rise up and look over the wall so that you can see the block and shoot it. The wall will disappear and so will the door to Emerald. Move forward until you are past where the wall should be and shoot the block again. The wall will reappear and so will the door.

The tree like object in Emerald can be shot to increase your energy and shields, but it will disappear after it has been hit several times.

The laser beacon in Topaz can be turned through 90 degrees by shooting it.





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Trivial Genius Edit	14.95	13.46	19.95	17.96
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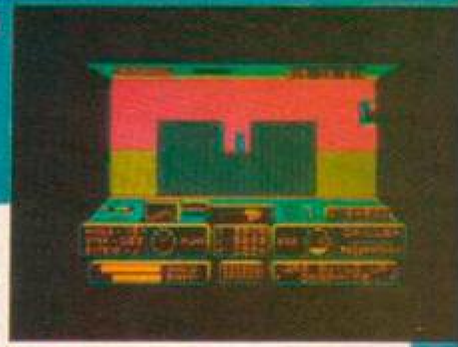
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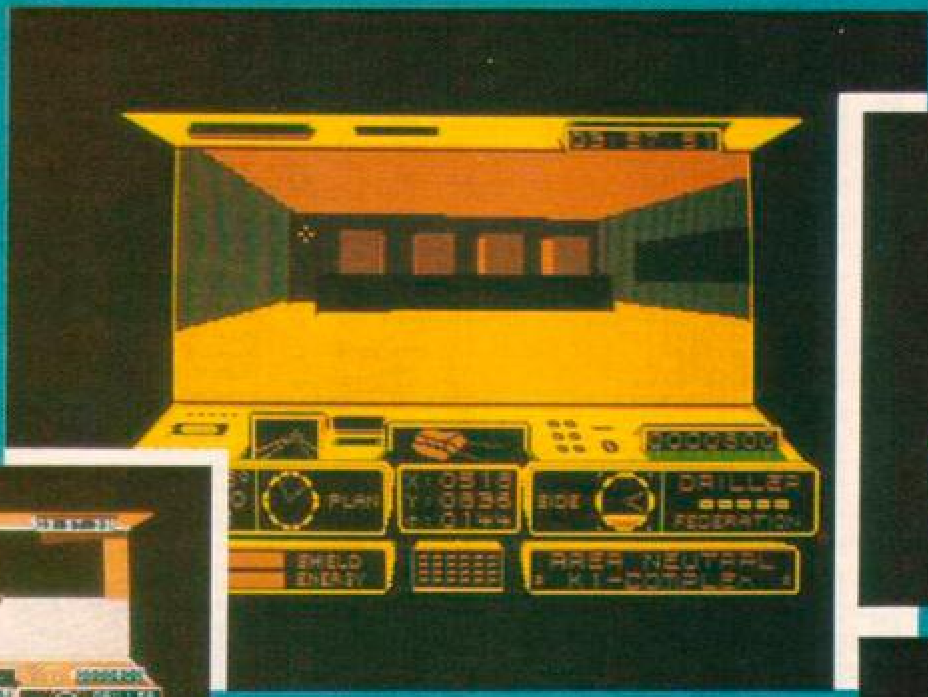
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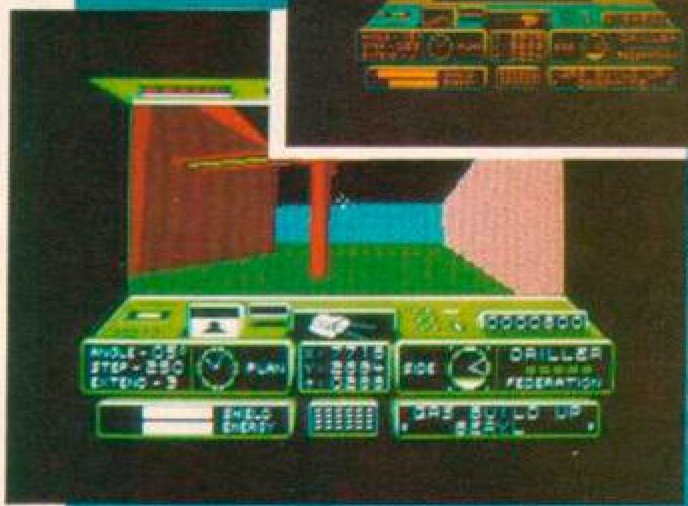
ESSENTIAL

5



3

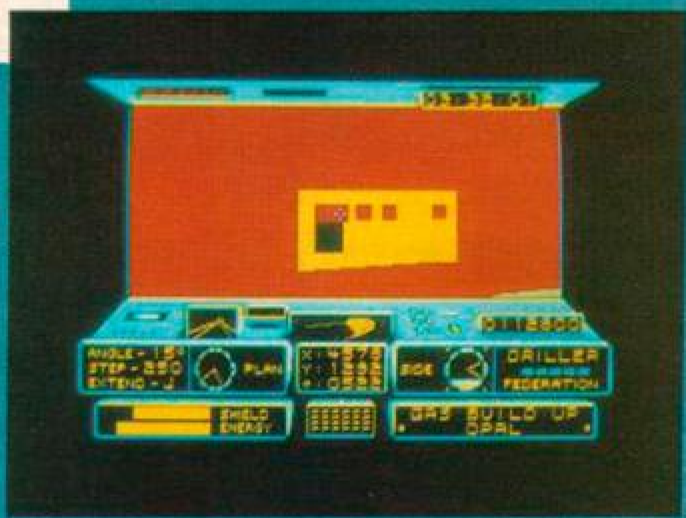




1



2



4

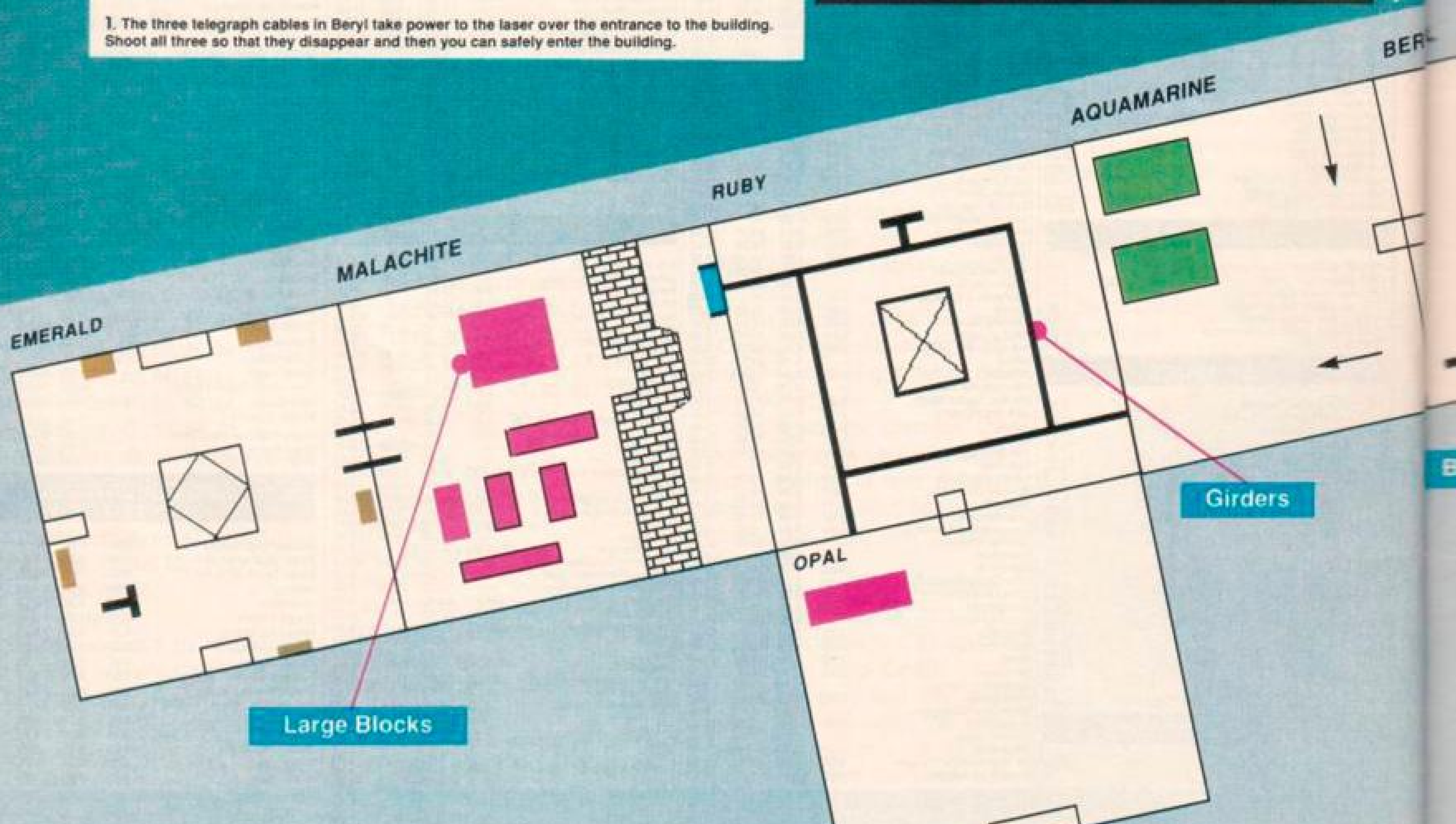
. To make the wall in Opal disappear, so that you can enter Diamond, you need to switch the switches in Alabaster, Niccolite, Quartz and Opal to the down position so that all four lights are lit.

2. To enter the building on the wall in Topaz you must park on the red and white block and turn to face the two cubes. Shoot the one on the left and the lift will rise. You can then enter the building.

3. At the end of the secret tunnel is a room with four blocks. Destroying all four of these makes the teleporters appear. Number them 1 to 4 from left to right.To destroy them shoot them in the order 4,3 and 2.

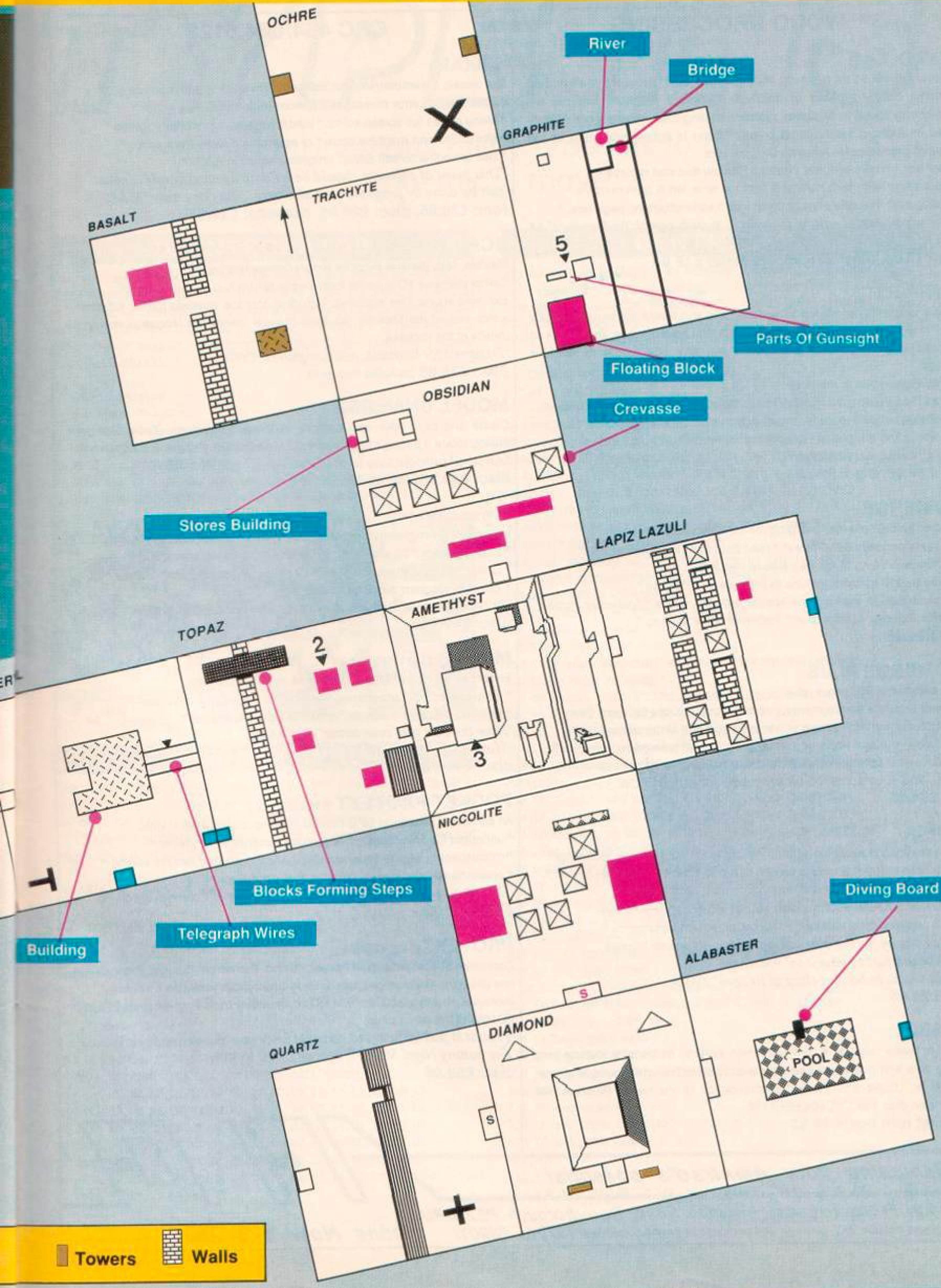
. In Graphite there is an invisible switch on the wall. To find it you must line your laser up on the wall by using the sight. Fire at this and another switch will appear. When this switch and those in Obsidian, Ochre and Basalt have been put in the down position you will be allowed access to Trachyte.

1. The three telegraph cables in Beryl take power to the laser over the entrance to the building. Shoot all three so that they disappear and then you can safely enter the building.



Block X Cross Doorway Hanger Buildings Pyramids S Switch T Teleport

DRILLER


OCHRE
River
Bridge
GRAPHITE
TRACHYTE
BASALT
5
Parts Of Gunsight
Floating Block
OBSIDIAN
Crevasse
Stores Building
LAPIZ LAZULI
AMETHYST
TOPAZ
2
3
NICCOLITE
Blocks Forming Steps
Telegraph Wires
Building
Diving Board
ALABASTER
DIAMOND
S
QUARTZ
S
POOL
Towers
Walls

TURBO-CHARGE YOUR AMSTRAD

WORD PROCESSING

PROTEXT

Protext is without doubt the most sophisticated word processor you'll find on any home micro. Its ease of use and advanced range of features are normally only found in business systems costing many times more. Widely praised throughout the Amstrad press, Protext is rightly acclaimed as the No.1 word processor for Amstrad CPC owners.

* Super fast * Works with any printer * Flexible find and replace *
* Layout stored with text; normal & decimal tabs, left & right margins *
* Word count * Versatile print options; incl. headers/footers, page nos. *

"Extremely powerful editing features ... superb search and replace" AA
"I can't emphasise how good it is" PCW

rom: £39.95, disc: £26.95, cassette: £19.95

PROSPELL

Typing and spelling errors are simple to make and frustrating to miss. But by using Prospell, you can produce documents that are error-free. Prospell is an automatic spelling checker that points out any odd words or dubious spellings.

* checks Protext text in memory *
* checks file on disc from Protext/Tasword/Amsword/NewWord/WordStar *
* over 33000 words * room for thousands more * up to 2000 words/min *
* find words and anagrams - great for crosswords *

"Fast, efficient, easy to use" YC

rom: £34.95, disc: £24.95

PROMERGE

More than just simple mail merging for multiple standard letters!

* integrates perfectly with Protext * read data from keyboard or file *
* conditional printing to create personalised letters *
* use the built in maths functions to produce invoices etc *
* microspacing - to even out the spaces between words * typewriter mode *
* link files together at print time * Reformat while printing *

disc: £24.95

PROMERGE PLUS

All the features of Promerge, plus:

* Edit two separate files in memory at once; copy blocks between them *
* Background printing - allows you to print and edit at the same time *
* Box mode - cut and paste any rectangle to create newspaper columns *

"You'll have a set-up that can thrash any 8-bit word processor for speed...and even some 16-bit programs for power" PCW

rom: £34.95

UTOPIA

50 new commands available without having to load a program, including:

* Text screen dump * Graphics screen dump to Epson compatible printer *
* disc utilities - disc format and copy, copy files, sector editor *
* useful function keys automatically set up; easily define your own *
* BASIC programming utilities * ROM management commands *

"UTOPIA is by far the best utilities rom...it's worth buying a rom board just to plug it in" AMSCLUB
"Utopia seems to be in a class of its own" AMTIX

rom: £29.95

ROMBO

All rom software requires a rom expansion system. Its benefits include zero loading time and maximum memory available for text, data, programs etc. Remember; Utopia and the extra commands of Promerge Plus are not available on disc. Fits CPC464/664,6128.

8 socket rom box: £34.95

CPC 464/664,6128

MAXAM

The classic Assembler/Monitor/Editor for developing Z80 machine code.

* Plain English error messages * Disassembler * Memory editor *
* Menu driven full screen editor * load/merge/save/print/find/replace *
* Mix BASIC and machine code * or assemble directly from editor *
* Use the editor to edit BASIC programs saved in ASCII *

"This piece of software should be held up as an example of what can be done by programmers who care ... buy one now!" E & C

rom: £39.95, disc: £26.95, cassette: £19.95

BCPL

Flexible, fast, general purpose programming language.
Comprehensive I/O libraries including graphics and sound.
Example source files supplied, including a space invaders game, full screen editor and all the libraries. 60 page manual covers the language and gives details of the libraries.

"Designed for humans, not computers" CWTA

disc: £39.95 (includes free rom)

MODEL UNIVERSE

Create and print your own designs in three dimensions. Zoom into your object, rotate it through 360 degrees or view from any angle or perspective

"An ideal introduction to the world of 3D graphics" CWTA

disc: £19.95, cassette: £15.95

C (6128,CP/M+)

Integrated C programming system. Full implementation of K&R standard.

* Floating point * 32 and 16 bit arithmetic * Optimising compiler *
* Linker * I/O and maths libraries * Conditional compilation * Macros *
* Editor is program mode of Protext *

"In typical Arnor fashion, they've taken their time and got it right" AU

disc: £49.95

MAXAM II (6128,CP/M+)

Enhanced version of Maxam for CP/M+. Extras include:

* Single stepping * conditional breakpoints * symbolic debugger *
* Editor is program mode of Protext * Macro assembler *

"Now the best gets even better" CWTA CPC
"Maxam II - others nil" AU

disc: £49.95

POCKET PROTEXT (6128,CP/M+)

An enhanced version of CPC Protext running under CP/M+ with:

* unlimited file size * foreign languages, accents on any letter *
* microspacing to give equal spacing between words * two file editing *
* proportional printing with right justification * disc utilities *

"Deserves to be the system by which all other WPs are judged" YC

disc: £39.95

PROTEXT (6128,CP/M+)

Combines all the features of Pocket Protext, Promerge Plus and Prospell into one program. German program and dictionary also available (Prowort).
Protext is also available for IBM PC compatibles including Amstrad PC1512/PC1640 at the same price.

"Protext is just so fast and versatile once you have used it - it is like putting Nigel Mansell against a C5" PYATW

disc: £59.95

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All prices include VAT, postage and packing. 24 hour Access/Visa. *(0733) 239011* **Phone Now**

Produced on Protext

TYPE-INS

More marvellous utility type-ins to make your micro move

DISINTEGRATOR

Have you seen the manner in which screens clear in games like *Druid* and *Turbo Esprit*? If you have then you'll know that the images in question tend to melt or disintegrate. **Simon Knights** from Sutton Coldfield has come up with a similar routine. Simply run the listing – or incorporate it into your own program – and when you wish to clear the screen simply enter CALL &BFØØ.

```
1 ' Disintegrator
2 ' by Simon Knights
3 ' Amstrad Action February 88
1Ø FOR p=&BFØØ TO &BF17:READ t
2Ø POKE p,t:NEXT:CALL &BFØØ
3Ø DATA &F3,&11,&FF,&BF,&Ø6,&Ø8,&21,&FF,&FF,&CB,&26,&2B
4Ø DATA &7B,&BD,&2Ø,&F9,&7A,&BC,&2Ø,&F5,&1Ø,&FØ,&FB,&C9
```



BLOCK SAVE

This short routine by **Kevin Jones** from Hull lets you save either Basic or binary programs to cassette as one large block. The routine introduces two extra commands to the system: |BSAVE and |BLOAD.

To save a program you must supply the program's start address and length. For a Basic program enter:

```
|BSAVE,&17Ø,HIMEM-FRE(Ø)
```

Make sure you note down the value HIMEM-FRE(Ø). You'll need it to load the program back into memory.

```
|BLOAD,&17Ø,length
```

```
1 ' Block save
2 ' by Kevin Jones
3 ' Amstrad Action February 88
1Ø FOR I=&AØØØ TO &AØ64
2Ø READ S$:POKE I,VAL("&"+S$):NEXT:CALL &AØØØ
3Ø DATA Ø1,ØA,AØ,21,12,AØ,CD,D1,BC,C9,16,AØ,C3,21,AØ,C3
4Ø DATA 39,AØ,ØØ,ØØ,ØØ,ØØ,42,53,41,56,C5,42,4C,4F,41,C4
5Ø DATA ØØ,FE,Ø2,CØ,DD,66,Ø3,DD,6E,Ø2,DD,56,Ø1,DD,5E,ØØ
6Ø DATA 3E,ØØ,CD,9E,BC,D2,51,AØ,C9,FE,Ø2,CØ,DD,66,Ø3,DD
7Ø DATA 6E,Ø2,DD,56,Ø1,DD,5E,ØØ,3E,ØØ,CD,A1,BC,D2,51,AØ
8Ø DATA C9,21,5E,AØ,7E,CB,7F,CØ,CD,5A,BB,23,18,F6,45,52
9Ø DATA 52,4F,52,AA,ØØ
```

CENTITHIEF

The **Akinlawon** brothers, from Neasden in London, have clubbed together to create this exciting, vertical-scrolling game. You, the Centithief, must avoid the oncoming barriers, collect jewels and eat power pills. Each pill adds a segment to your body. To win you have to get to the top of the screen. Left and right arrow keys to control Centy.

```
1 ' Centithief
2 ' by F & J Akinlawon
3 ' Amstrad Action February 88
1Ø SYMBOL 255,36,24,126,153,24,126,153,36
2Ø SYMBOL 254,255,129,191,191,191,191,191,255
3Ø MODE 1:INK Ø,Ø:BORDER Ø:INK 1,24:INK 2,6:PAPER Ø
4Ø LOCATE 1,1:PEN 1:PRINT"  C E N T E T H I E F"
5Ø LOCATE 1,5:PEN 3:PRINT"YOU ATE ";:PEN 1:PRINT JE;
6Ø PEN 3:PRINT" ANTS":LOCATE 1,1Ø:PEN 3
7Ø PRINT"YOU SCORED ";:PEN 1:PRINT SCORE;:PEN 3
8Ø PRINT" POINTS":LOCATE 1,15:PEN 3
9Ø PRINT"YOU TRAVELLED  ";:PEN 1:PRINT CENTI;:PEN 3
1ØØ PRINT" CENTIMETERS":LOCATE 1,2Ø:PEN 2
11Ø PRINT"PRESS <SPACE> BAR"
12Ø IF INKEY(47)=Ø THEN CLS ELSE 12Ø
13Ø a$=CHR$(11):a=1Ø
14Ø REM * VARIABLES *
15Ø x=1Ø:y=2Ø:JE=Ø:CENTI=Ø:SCORE=Ø:ROAD=1:cent=Ø:b=24
16Ø REM * MAIN PROGRAM *
17Ø IF road=1 THEN LOCATE x,1:PEN 2:PRINT CHR$(254)+CHR$(254)
18Ø IF road=1 THEN LOCATE y,1:PEN 2:PRINT CHR$(254)
19Ø IF road=2 THEN LOCATE y,1:PEN 2:PRINT
CHR$(254)+CHR$(128)+CHR$(254)
2ØØ IF road=3 THEN LOCATE y,1:INK 3,PE,PEE:PEN 3:PRINT
CHR$(227)
21Ø IF road=2 THEN LOCATE x,1:PEN 2:PRINT CHR$(254)
22Ø IF road=3 THEN LOCATE x,1:PEN 1:PRINT CHR$(255)
23Ø LOCATE 1,1:PRINT a$:LOCATE a,b:PEN 1:PRINT CHR$(255)
24Ø road=INT(RND*4):IF road=Ø THEN GOTO 24Ø
25Ø x=INT(RND*2Ø)+1:y=INT(RND*2Ø)+1
26Ø IF INKEY(1)=Ø THEN LOCATE a,b:PRINT" ":a=a+1
27Ø IF INKEY(8)=Ø THEN LOCATE a,b:PRINT" ":a=a-1
28Ø REM * COLLISION DETECTION *
29Ø aa=a*16-8:bb=4ØØ-(b*16)+26:t=TEST(aa,bb)
3ØØ IF t=3 THEN SOUND 1,1Ø:score=score+1Ø
31Ø IF t=1 THEN SOUND
1,5Ø,5,15,3,2,1:je=je+1:score=score+1:b=b-1
32Ø IF t=2 THEN ENV 1,1ØØ,2,2:ENT 1,1ØØ,-2,2:SOUND
1,284,2ØØ,1,1,1:GOTO 1Ø
33Ø IF A=2Ø THEN A=19
34Ø IF A=1 THEN A=2
35Ø pe=INT(RND*26)+1:pee=INT(RND*26)+1:CENT=CENT+1
36Ø CENTI=CENTI+1
37Ø IF cent=1ØØ THEN r=1
38Ø IF r=1 THEN i=INT(RND*26)+1:INK 2,i:r=Ø:cent=Ø
39Ø IF b=5 THEN CLS:GOTO 41Ø
4ØØ GOTO 17Ø
41Ø PRINT"C.O.N.G.R.A.T.U.L.A.T.I.O.N.S"
42Ø FOR N=1 TO 1ØØ:LOCATE 2Ø,2Ø:PRINT" ":NEXT:GOTO 3Ø
```

SmART

Robert Buckley from Kidbrooke in London has written a wonderful design program. It is long, but then it's very slick. SmArt uses a cut-down wimp environment – windows, icons and pointer are present. The mouse is missing. Rather than moving the pointer with a mouse, you can use either keys or joystick.

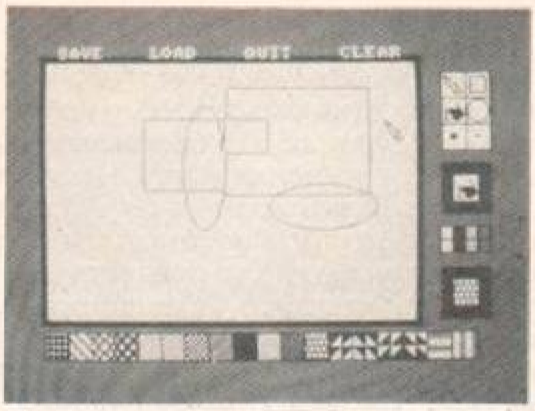
The program is set to work with a joystick. If you wish to use keys then change the variable KE=Ø (in line 2Ø) to KE=1.

On screen you're treated to an assortment of icons and a large blank area. The blank area is the drawing board. The icons – starting from top right – allow you to draw lines, boxes, circles, vary the thickness of lines and fill areas with a chosen stipple (of which there are 18 displayed at the bottom of the screen).

Colours are selected by pressing *fØ*, *f1*, *f2* and *f3* on the keypad.

To select an option simply move the pointer (in the shape of a pen) over the required function. Then press fire (or the Copy key).

pointer
shows currently selected option
colours in current use
current stipple effect
stipple choices
drawing area



At the top of the drawing area are four more options: save (the current screen), load (a previously designed screen), quit and clear (the screen).

```
1 ' SmArt
2 ' by Robert Buckley
3 ' Amstrad Action February 88
1Ø BORDER 2:INK Ø,26:INK 1,Ø:INK 2,24:INK 3,2:MODE 1:PEN 1
2Ø PLOT Ø,Ø,1:DEG:KE=Ø:PA=Ø:PE=1:i(3)=2:i(Ø)=26:i(1)=Ø
3Ø i(2)=24:PRINT CHR$(23);CHR$(Ø):ENV 1,15,-1,8:
4Ø ROUTINE=Ø:DIM CO(8,8)
5Ø FOR F=Ø TO 7:FOR G=Ø TO 7:CO(F,G)=1:NEXT:NEXT
6Ø PAPER 3:CLS:WINDOW#1,2,32,2,21:PAPER#1,Ø:CLS#1
7Ø FOR F=Ø TO 6 STEP 2:PLOT 1Ø+F,56+F:DRAW 518-F,56+F:
8Ø DRAW 518-F,386-F:DRAW 1Ø+F,386-F:DRAW 1Ø+F,56+F:NEXT
9Ø PEN Ø:PRINT CHR$(22);CHR$(1);
1ØØ PRINT" SAVE     LOAD     QUIT     CLEAR"
11Ø PRINT CHR$(22);CHR$(Ø);:PEN 1
12Ø PAPER#1,Ø:WINDOW#1,35,38,3,8:CLS#1:WINDOW#2,35,38,1Ø,13
13Ø PAPER#2,1:CLS#2:WINDOW#2,36,37,11,12:PAPER#2,Ø:CLS#2
14Ø SYMBOL AFTER 126:SYMBOL 126,Ø,Ø,48,56,22,21,8,8
15Ø SYMBOL 127,6,2,1:SYMBOL 128,Ø,Ø,Ø,Ø,Ø,Ø,128,64
16Ø SYMBOL 129,96,48,16,136,212,1ØØ,24
17Ø SYMBOL 13Ø,Ø,Ø,Ø,31,16,16,16,16
18Ø SYMBOL 131,16,16,16,16,16,31
19Ø SYMBOL 132,Ø,Ø,Ø,252,4,4,4,4:SYMBOL 133,4,4,4,4,4,252
2ØØ SYMBOL 134,Ø,Ø,Ø,Ø,Ø,Ø,Ø,31
21Ø SYMBOL 135,23,23,19,17,17,16,56
22Ø SYMBOL 136,Ø,Ø,16,32,32,16,8,248
23Ø SYMBOL 137,252,254,255,254,252,248,96
24Ø SYMBOL 138,Ø,7,8,16,32,32,64,64
25Ø SYMBOL 139,64,64,64,32,32,16,14,1
26Ø SYMBOL 14Ø,Ø,224,24,4,2,2,1,1
27Ø SYMBOL 141,1,1,2,2,4,8,24,192
28Ø PRINT#1,CHR$(126);CHR$(128);CHR$(13Ø);CHR$(132);
29Ø PRINT#1,CHR$(127);CHR$(129);CHR$(131);CHR$(133);
3ØØ PRINT#1,CHR$(134);CHR$(136);CHR$(138);CHR$(14Ø);
31Ø PRINT#1,CHR$(135);CHR$(137);CHR$(139);CHR$(141);
32Ø FOR F=Ø TO 3:FOR G=Ø TO 3:PLOT 59Ø+G,286+F,1:NEXT:NEXT
33Ø FOR F=Ø TO 7:FOR G=Ø TO 7:PLOT 556+G,284+F,1:NEXT:NEXT
34Ø SYMBOL 2ØØ,34,119,255,119,34,119,255,119
35Ø SYMBOL 2Ø8,255,255,255,255,255,255,255,255:U=2Ø8
36Ø SYMBOL 2Ø4,136,68,34,17,136,68,34,17
37Ø SYMBOL 2Ø5,17,34,68,136,17,34,68,136
38Ø SYMBOL 2Ø9,68,17,68,17,68,17,68,17
39Ø SYMBOL 21Ø,187,238,187,238,187,238,187,238
4ØØ SYMBOL 211,34,34,34,255,136,136,136,255
41Ø FOR F=1 TO 18:WINDOW#3,F*2,F*2+1,23,24:PAPER#3,Ø:CLS#3
42Ø PRINT#3,CHR$(F+199);CHR$(F+199);CHR$(F+199);CHR$(F+199);
43Ø NEXT
44Ø FOR F=Ø TO 6ØØ STEP 32:PLOT F+14,16:DRAWR Ø,32:NEXT
45Ø PLOT 14,14:DRAWR 576,Ø:PLOT 14,48:DRAWR 576,Ø
46Ø FOR F=Ø TO 3:LOCATE F+35,16:PAPER F:PRINT" ";
47Ø LOCATE F+35,15:PRINT" ";:NEXT:PAPER Ø
48Ø FOR F=Ø TO 4:PLOT 542+(F*16),144:DRAWR Ø,32:NEXT
49Ø FOR F=Ø TO 2:PLOT 542,144+(F*16):DRAWR 64,Ø:NEXT
5ØØ WINDOW#3,35,38,18,21:PAPER#3,1:CLS#3:WINDOW#3,36,37,19,2Ø
51Ø PAPER#3,PA:PEN#3,PE:CLS#3
52Ø PRINT#3,CHR$(U);CHR$(U);CHR$(U);CHR$(U);
53Ø FOR F=Ø TO 64 STEP 32:PLOT 544+F,27Ø:DRAWR Ø,96:NEXT
54Ø FOR F=Ø TO 96 STEP 32:PLOT 544,27Ø+F:DRAWR 64,Ø:NEXT
55Ø A$=CHR$(126)+CHR$(128):B$=CHR$(127)+CHR$(129)
56Ø X=28Ø:Y=2ØØ:X1=X:Y1=Y
57Ø IF KE=1 THEN UP=Ø:DO=2:LE=8:RI=1:FI=9
58Ø IF KE=Ø THEN UP=72:DO=73:LE=74:RI=75:FI=76
59Ø PRINT CHR$(23);CHR$(1);:TAG:PLOT Ø,-2,1:MOVE X,Y
6ØØ PRINT A$;:MOVE X,Y-16:PRINT B$;
61Ø REM MAIN BIT
62Ø IF INKEY(15)=Ø THEN i=Ø:GOTO 197Ø
63Ø IF INKEY(13)=Ø THEN i=1:GOTO 197Ø
64Ø IF INKEY(14)=Ø THEN i=2:GOTO 197Ø
65Ø IF INKEY(5)=Ø THEN i=3:GOTO 197Ø
66Ø IF INKEY(LE)=Ø AND (X+INX)>Ø THEN INX=INX-2:GOTO 69Ø
67Ø IF INKEY(RI)=Ø AND (X+INX)<6Ø8 THEN INX=INX+2:GOTO 69Ø
68Ø INX=Ø
69Ø IF INKEY(UP)=Ø AND (y+INY)<398 THEN INY=INY+2:GOTO 72Ø
7ØØ IF INKEY(DO)=Ø AND (y+iny)>32 THEN INY=INY-2:GOTO 72Ø
71Ø INY=Ø
72Ø IF INX>16 THEN INX=16
73Ø IF INY>16 THEN INY=16
74Ø IF INKEY(fi)=Ø THEN 83Ø
75Ø IF ROUTINE=2 THEN C=Ø:D=Ø
76Ø IF routine=4 AND C<>Ø AND D<>Ø THEN 147Ø
77Ø X=X+INX:Y=Y+INY
78Ø IF X<>X1 OR Y<>Y1 THEN 8ØØ
79Ø GOTO 61Ø
8ØØ PLOT Ø,-2,1:MOVE X1,Y1:PRINT A$;:MOVE X1,Y1-16:PRINT B$;
81Ø MOVE X,Y:PRINT A$;:MOVE X,Y-16:PRINT B$;:X1=X:Y1=Y
82Ø GOTO 61Ø
83Ø REM FIRE BUTTON PRESSED
84Ø IF X>12 AND X<5Ø8 AND Y>66 AND Y<384 THEN 154Ø
85Ø IF X>542 AND X<568 AND Y>34Ø AND Y<368 THEN 11ØØ
86Ø IF X>568 AND X<6Ø2 AND Y>34Ø AND Y<368 THEN 122Ø
87Ø IF x>574 AND y>3Ø6 AND x<6Ø2 AND y<336 THEN 141Ø
88Ø IF X>542 AND X<568 AND Y>276 AND Y<3Ø4 THEN
    SOUND 1,2ØØ,Ø,15,1:PO=1:GOTO 61Ø
89Ø IF X>568 AND X<6Ø2 AND Y>276 AND Y<3Ø4 THEN
    SOUND 1,2ØØ,Ø,15,1:PO=Ø:GOTO 61Ø
9ØØ IF X>542 AND Y>3Ø8 AND X<572 AND Y<334 THEN 135Ø
91Ø IF X>54Ø AND Y>148 AND X<6Ø2 AND Y<176 THEN 128Ø
92Ø IF X>12 AND Y>2Ø AND X<584 AND Y<5Ø THEN 114Ø
93Ø IF Y>39Ø THEN 95Ø
94Ø SOUND 1,1ØØ,Ø,15,1:GOTO 61Ø
95Ø IF X>41Ø AND X<492 THEN 1ØØØ
96Ø IF X>286 AND X<346 THEN END
97Ø IF X>154 AND X<222 THEN 1Ø3Ø
```

• ACCOUNTANT PLUS

The *Home Accountant* program published in issue 27 of AA is excellent, however, there is a minor bug. Following is the solution and some hints on making the program even better.

In certain circumstances the balance displayed is incorrect. Simply alter line 840 to read 840 bal=0.

The View-file routine is well laid out, but when more than 16 entries are present the display simply scrolls through them. By changing statement 930 to test for a full page and going to a temporary wait routine, the user can view all data entries. Add these lines to *Home Accountant*:

```
930 PRINT#1,TAB(70);USING"£####.##";BAL:IF n/16=INT(n/16)
    THEN GOSUB 1560
935 NEXT
1560 LOCATE 10,25:PAPER 0:PEN 1
1570 PRINT"Press a key to continue":PAPER 1:PEN 0
1580 CALL &BB18:RETURN
```

The presentation of the Delete-from-file routine simply doesn't match the rest of the program. It would appear to have been a poorly tested afterthought. The data presentation is unformatted and difficult to decipher. Try the following modification:

```
650 MODE 2:PRINT;TAB(5);"DETAILS";TAB(25);"DATE";TAB(40);
    "DEBIT";TAB(57);"CREDIT":FOR n=1 to c
660 PRINT;TAB(1);n;TAB(5);text$(n);TAB(25);date$(n);
    TAB(40);USING "****.**";db(n);
665 PRINT;TAB(57);USING "****.**";cr(n):IF n/22=INT(n/22)
    THEN GOSUB 1560
670 PAPER 0:PEN 1:NEXT
```

Neil Helsby
Hants

```
98Ø IF X>23 AND X<92 THEN 1Ø6Ø
99Ø GOTO 94Ø
1ØØØ GOSUB 2ØØØ:TAGOFF:PRINT CHR$(23);CHR$(Ø);
1Ø1Ø FOR F=18 TO 51Ø STEP 2:PLOT F,64,Ø:DRAWR Ø,314:NEXT
1Ø2Ø PRINT CHR$(23);CHR$(1);:TAG:GOSUB 2ØØØ:GOTO 61Ø
1Ø3Ø SOUND 1,2ØØ,Ø,15,1:SOUND 1,5Ø,Ø,15,1:SOUND 1,2ØØ,Ø,15,1
1Ø4Ø GOSUB 2ØØØ
1Ø5Ø LOAD"!SMART.SCR",&CØØØ:GOSUB 2ØØØ:GOTO 61Ø
1Ø6Ø SOUND 1,2ØØ,Ø,15,1:SOUND 1,5Ø,Ø,15,1:SOUND 1,2ØØ,Ø,15,1
1Ø7Ø FOR F=1 TO 5ØØ:NEXT:GOSUB 2ØØØ
1Ø8Ø G$=INKEY$:IF G$=""THEN 1Ø8Ø
1Ø9Ø SAVE"!SMART.SCR",B,&CØØØ,&4ØØØ:GOSUB 2ØØØ:GOTO 61Ø
11ØØ GOSUB 2ØØØ:A$=CHR$(126)+CHR$(128):B$=CHR$(127)+CHR$(129)
111Ø CLS#2:PRINT#2,A$;B$;:GOSUB 2ØØØ
112Ø SOUND 1,2ØØ,Ø,15,1
113Ø FOR F=1 TO 2ØØ:NEXT:ROUTINE=1:GOTO 61Ø
114Ø REM CHOOSE HATCH
115Ø U=X-1Ø:U=INT(U/32)
116Ø U=U+2ØØ:WINDOW#3,35,38,18,21:PAPER#3,1:CLS#3
117Ø WINDOW#3,36,37,19,2Ø:PAPER#3,PA:PEN#3,PE:CLS#3
118Ø PRINT#3,CHR$(U);CHR$(U);CHR$(U);CHR$(U);
119Ø FOR F=Ø TO 7:FOR G=Ø TO 7:J=TEST((F*2)+56Ø,(G*2)+9Ø)
12ØØ CO(F,7-G)=J:NEXT:NEXT
121Ø GOTO 93Ø
122Ø REM RECTANGLE OF BOX ROUTINE
123Ø GOSUB 2ØØØ:A$=CHR$(13Ø)+CHR$(132):B$=CHR$(131)+CHR$(133)
124Ø CLS#2:PRINT#2,A$;B$;:a$=CHR$(126)+CHR$(128)
125Ø b$=CHR$(127)+CHR$(129):GOSUB 2ØØØ
126Ø SOUND 1,2ØØ,Ø,15,1
127Ø FOR F=1 TO 2ØØ:NEXT:ROUTINE=2:GOTO 61Ø
128Ø K=X-54Ø:K=INT(K/16)
129Ø IF Y>=164 THEN PE=K ELSE PA=K
13ØØ WINDOW#3,36,37,19,2Ø:PAPER#3,PA:PEN#3,PE:CLS#3
131Ø PRINT#3,CHR$(U);CHR$(U);CHR$(U);CHR$(U);
132Ø FOR F=Ø TO 7:FOR G=Ø TO 7:J=TEST((F*2)+56Ø,(G*2)+9Ø)
133Ø CO(F,7-G)=J:NEXT:NEXT
134Ø GOTO 93Ø
135Ø REM SET UP FILL COMMAND
136Ø GOSUB 2ØØØ:A$=CHR$(134)+CHR$(136):B$=CHR$(135)+CHR$(137)
137Ø CLS#2:PRINT#2,A$;B$;:a$=CHR$(126)+CHR$(128)
138Ø b$=CHR$(127)+CHR$(129):GOSUB 2ØØØ
139Ø SOUND 1,2ØØ,Ø,15,1
14ØØ FOR F=1 TO 2ØØ:NEXT:ROUTINE=3:GOTO 61Ø
141Ø REM RECTANGLE OF OBLONG ROUTINE
142Ø GOSUB 2ØØØ:A$=CHR$(138)+CHR$(14Ø):B$=CHR$(139)+CHR$(141)
143Ø CLS#2:PRINT#2,A$;B$;:a$=CHR$(126)+CHR$(128)
144Ø b$=CHR$(127)+CHR$(129):GOSUB 2ØØØ
145Ø SOUND 1,2ØØ,Ø,15,1
146Ø FOR f=1 TO 2ØØ:NEXT:routine=4:GOTO 61Ø
147Ø REM DRAW CIRCLE
148Ø PLOT C,D,PE:DRAW C1,D:DRAW C1,D1:DRAW C,D1:DRAW C,D
149Ø TAGOFF:PRINT CHR$(23);CHR$(Ø);
15ØØ                              C1=(C-X)/2:D1=(D-Y)/2:PLOT
C1+X+C1*SIN(Ø),D1+Y+D1*COS(Ø),1
151Ø FOR F=Ø TO 36Ø STEP 1Ø
152Ø DRAW C1+X+C1*SIN(F),D1+Y+D1*COS(F):NEXT
153Ø PRINT CHR$(23);CHR$(1);:TAG:C=Ø:D=Ø:GOTO 77Ø
154Ø REM FIND OUT ROUTINE
155Ø ON ROUTINE GOSUB 157Ø,166Ø,173Ø,166Ø
156Ø GOTO 77Ø
157Ø TAGOFF:PRINT CHR$(23);CHR$(Ø);
158Ø IF INX>2 THEN INX=2 ELSE IF INX<-2 THEN INX=-2
159Ø IF INY>2 THEN INY=2 ELSE IF INY<-2 THEN INY=-2
16ØØ IF PO=Ø THEN 164Ø
161Ø PLOT X,Y-2,CO((X MOD 16)/2,(Y MOD 16)/2)
162Ø PLOT X,Y,CO((X MOD 16)/2,((Y+2)MOD 16)/2)
163Ø PLOT X+2,Y,CO(((X+2)MOD 16)/2,((Y+2)MOD 16)/2)
164Ø PLOT X+2,Y-2,CO(((X+2) MOD 16)/2,(Y MOD 16)/2)
165Ø PRINT CHR$(23);CHR$(1);:TAG:RETURN
166Ø REM BOX BIT
167Ø IF C<>Ø OR D<>Ø THEN 17ØØ
168Ø C=X:D=Y:C1=C:D1=D
169Ø PLOT C,D,PE:DRAW X,D:DRAW X,Y:DRAW C,Y:DRAW C,D
17ØØ PLOT C,D,PE:DRAW C1,D:DRAW C1,D1:DRAW C,D1:DRAW C,D
171Ø PLOT C,D:DRAW X,D:DRAW X,Y:DRAW C,Y:DRAW C,D:C1=X:D1=Y
172Ø RETURN
173Ø REM FILL ROUTINE
174Ø GOSUB 2ØØØ:TAGOFF:PRINT CHR$(23);CHR$(Ø);
175Ø X=X+4:Y=Y-4:A=TEST(X,Y):S=X
176Ø FOR F=Y TO 38Ø STEP 2
177Ø IF TEST(S,F-2)<>A THEN 18ØØ
178Ø PLOT S,F-2,CO((S MOD 16)/2,(F MOD 16)/2)
179Ø NEXT
18ØØ FOR F=Y-2 TO 66 STEP-2
181Ø IF TEST(S,F-2)<>A THEN 184Ø
182Ø PLOT S,F-2,CO((S MOD 16)/2,(F MOD 16)/2)
183Ø NEXT
184Ø IF TEST(S-2,Y)<>A THEN S=X+2:GOTO 186Ø
185Ø S=S-2:GOTO 176Ø
186Ø FOR F=Y TO 38Ø STEP 2
187Ø IF TEST(S,F-2)<>A THEN 19ØØ
188Ø PLOT S,F-2,CO((S MOD 16)/2,(F MOD 16)/2)
189Ø NEXT
19ØØ FOR F=Y-2 TO 66 STEP-2
191Ø IF TEST(S,F-2)<>A THEN 194Ø
192Ø PLOT S,F-2,CO((S MOD 16)/2,(F MOD 16)/2)
193Ø NEXT
194Ø IF TEST(S+2,Y)<>A THEN PRINT CHR$(23);CHR$(1);
    TAG:X=X-4:Y=Y+4:GOSUB 2ØØØ:RETURN
195Ø S=S+2:GOTO 186Ø
196Ø REM DATA FOR HATCHING
197Ø i(i)=i(i)+1:IF i(i)>26 THEN i(i)=Ø
198Ø INK i,i(i):BORDER i(3):FOR f=1 TO 2ØØ:NEXT
199Ø GOTO 66Ø
2ØØØ REM EXCHANGE CHARACTERS
2Ø1Ø PLOT Ø,-2,1:MOVE X,Y1:PRINT A$;:MOVE X,Y-16
2Ø2Ø PRINT B$;:RETURN
```

WAVE

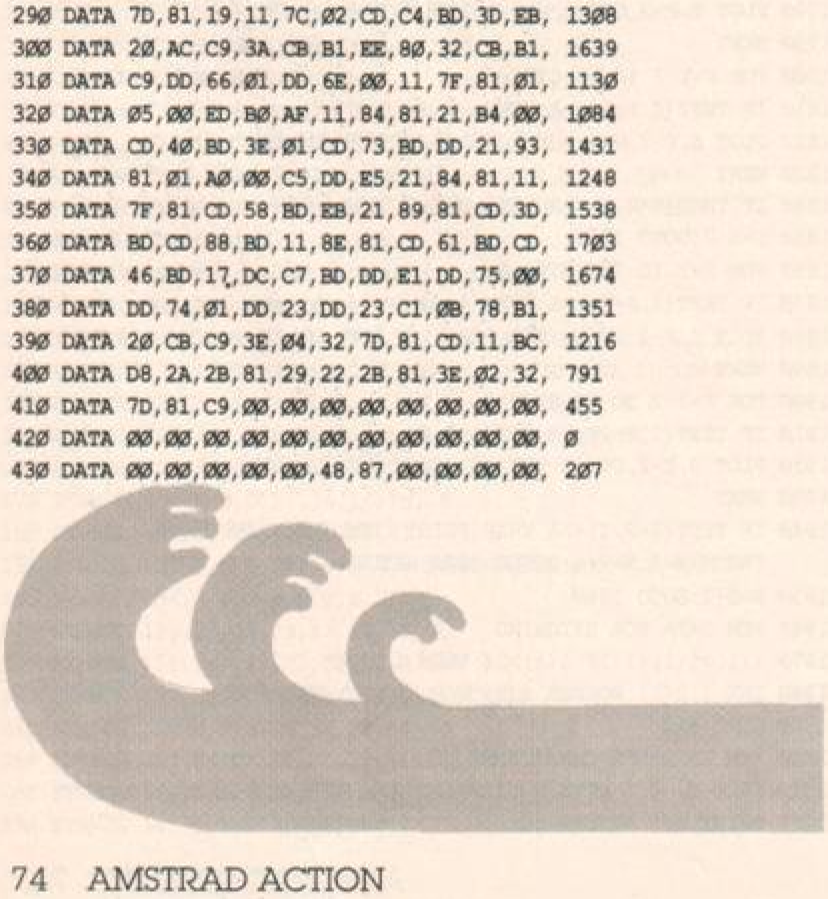
Remember Peter Featherstone's Spheriscreen program featured in issue 27? Well, **Seg Gorham** from Portobello has managed a machine code version. It only works on 464 machines, and it can only cope with vertical and horizontal distortions. It is much faster though. A screen takes roughly five minutes to draw.

Simply run the listing below, load a screen at location &4ØØØ then enter either `|HWAVE` or `|VWAVE`:

```
MEMORY &3FFF:LOAD"screen",&4ØØØ:x=2.6:|HWAVE,@x
```

The variable `x` is a real number corresponding to the distortion factor. Try values in the range 2.25 to 2.7.

```
1 ' Wave
2 ' by Seg Gorham
3 ' Amstrad Action February 88
1Ø MEMORY &3FFF:addr=&8ØØØ:FOR q=1 TO 37:sum=Ø:FOR b=1 TO 11
2Ø READ byte$:byte=VAL("&"+byte$)
3Ø POKE addr,byte:addr=addr+1:sum=sum+byte:NEXT b:READ k
4Ø IF k<>sum THEN PRINT"Error in DATA in line";6Ø+q*1Ø:END
5Ø NEXT q:CALL &8ØØØ
6Ø PRINT"|HWAVE and |VWAVE logged on."
7Ø DATA 21,Ø9,8Ø,Ø1,ØD,8Ø,C3,D1,BC,ØØ,ØØ, 9Ø4
8Ø DATA ØØ,ØØ,15,8Ø,C3,9Ø,8Ø,C3,2Ø,8Ø,48, 1Ø43
9Ø DATA 57,41,56,C5,56,57,41,56,C5,ØØ,3D, 1Ø17
1ØØ DATA CØ,21,ØØ,ØØ,22,1C,81,21,C8,ØØ,22, 683
11Ø DATA 2B,81,CD,63,81,CD,Ø9,81,11,ØØ,ØØ, 965
12Ø DATA ED,53,79,81,DD,21,93,81,21,ØØ,ØØ, 1133
13Ø DATA 22,7B,81,ED,5B,79,81,2A,7B,81,CD, 1363
14Ø DATA ØØ,81,CD,FØ,BB,CD,DE,BB,CD,ØØ,81, 17Ø9
15Ø DATA DD,5E,ØØ,DD,56,Ø1,2A,79,81,19,EB, 1175
16Ø DATA 2A,7B,81,CD,EA,BB,DD,23,DD,23,2A, 1474
17Ø DATA 7B,81,Ø1,Ø2,ØØ,Ø9,11,8E,Ø1,CD,C4, 825
18Ø DATA BD,3D,2Ø,C5,ED,5B,79,81,2A,7D,81, 1353
19Ø DATA 19,11,7C,Ø2,CD,C4,BD,3D,EB,2Ø,A8, 1254
2ØØ DATA C9,3D,CØ,21,B4,ØØ,22,1C,81,21,AØ, 1Ø51
21Ø DATA ØØ,22,2B,81,CD,63,81,CD,Ø9,81,DD, 12Ø3
22Ø DATA 21,93,81,11,ØØ,ØØ,ED,53,79,81,21, 929
23Ø DATA ØØ,ØØ,22,7B,81,ED,5B,79,81,2A,7B, 1Ø29
24Ø DATA 81,CD,ØØ,81,CD,FØ,BB,CD,DE,BB,CD, 1914
25Ø DATA ØØ,81,DD,5E,ØØ,DD,56,Ø1,2A,7B,81, 1Ø46
26Ø DATA 19,ED,5B,79,81,CD,EA,BB,2A,7B,81, 1523
27Ø DATA Ø1,Ø2,ØØ,Ø9,11,8E,Ø1,CD,C4,BD,3D, 823
28Ø DATA 2Ø,C9,DD,23,DD,23,ED,5B,79,81,2A, 1365
29Ø DATA 7D,81,19,11,7C,Ø2,CD,C4,BD,3D,EB, 13Ø8
3ØØ DATA 2Ø,AC,C9,3A,CB,B1,EE,8Ø,32,CB,B1, 1639
31Ø DATA C9,DD,66,Ø1,DD,6E,ØØ,11,7F,81,Ø1, 113Ø
32Ø DATA Ø5,ØØ,ED,BØ,AF,11,84,81,21,B4,ØØ, 1Ø84
33Ø DATA CD,4Ø,BD,3E,Ø1,CD,73,BD,DD,21,93, 1431
34Ø DATA 81,Ø1,AØ,ØØ,C5,DD,E5,21,84,81,11, 1248
35Ø DATA 7F,81,CD,58,BD,EB,21,89,81,CD,3D, 1538
36Ø DATA BD,CD,88,BD,11,8E,81,CD,61,BD,CD, 17Ø3
37Ø DATA 46,BD,17,DC,C7,BD,DD,E1,DD,75,ØØ, 1674
38Ø DATA DD,74,Ø1,DD,23,DD,23,C1,ØB,78,B1, 1351
39Ø DATA 2Ø,CB,C9,3E,Ø4,32,7D,81,CD,11,BC, 1216
4ØØ DATA D8,2A,2B,81,29,22,2B,81,3E,Ø2,32, 791
41Ø DATA 7D,81,C9,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ, 455
42Ø DATA ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ, Ø
43Ø DATA ØØ,ØØ,ØØ,ØØ,ØØ,48,87,ØØ,ØØ,ØØ,ØØ, 2Ø7
```



● LOGO PATTERN

Thanks to **John Ambrose** in Herts you have a Logo listing to enter. Simply boot up your Logo disk and type exactly what you see. When you've finished enter `START angle`. Where angle is any number. For best results try numbers above 9Ø.

```
to start :angle
make "x 1
fs
cs
window
pattern
end
to pattern
make "x :x + 5
fd :x
lt :angle
pattern
end
```

MULTIUTIL

Andrew Sharp from Oxford has put together a program that supplies Basic with a handful of useful commands. When run, the program saves itself as a binary file. This means you can use it later from your own programs: `MEMORY &A4FF:LOAD"util.bin",&A5ØØ` will do the trick.

The extra commands are:

`|XOR` – inverts the colours on the screen.
`|MERGE` – merges two screens together. One is located at &4ØØØ, the other at &CØØØ. The two are xored together. For example:

```
MEMORY &3FFF:LOAD"screen1",&4ØØØ:LOAD"screen2",&CØØØ:|MERGE
```

`|COPY.Ø` – copies the screen from &4ØØØ to &CØØØ.
`|COPY.1` – does the opposite to the above.
`|WAIT` – pauses the computer until a key is pressed.
`|REPEAT.ON` – sets a key to auto-repeat:

```
k%=18:|REPEAT.ON,k%
```

where `k%` refers to the key number (found at the back of the User Instructions or the top of the 6128's disk drive).

`|REPEAT.OFF` – does the opposite to the above.
`|COPYCHAR` – returns the Ascii value of a character at the current cursor position:

```
a%=Ø:|COPYCHAR,@a%:PRINT a%
```

`|SHIFT` – turns the shift lock on.
`|CAPS` – turns the Caps lock on.
`|FLUSH` – flushes the keyboard buffer.
`|MOTOR.ON` – turns on the cassette motor.
`|MOTOR.OFF` – does the opposite to the above.
`|HELP` – lists all the rsx commands available.
`|BIGK` – remember the BIGK formatter which appeared on the previous Christmas '86 cover cassette? Well, this routine makes it possible for you to load and save to the high capacity format easily.
`|DATA` – allows you to use standard formats again.

```
1 ' Multiutil
2 ' by Andrew Sharp
3 ' Amstrad Action February 88
1Ø FOR x=&A5ØØ TO &A6E2:READ a$:t=VAL("&"+a$)
3Ø POKE x,t:tot=tot+t:NEXT:READ a$
6Ø IF a$<>"FØ47" THEN PRINT "Error in data!";CHR$(7):END
7Ø SAVE"util"
8Ø SAVE"util.bin",b,&A5ØØ,&1E3
9Ø CALL &A5ØØ:|HELP:PRINT "Commands installed"
12Ø END
```

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```
1ØØØ DATA 21,ØA,A5,Ø1,ØE,A5,CD,D1,BC,C9,FC,A6,ØE,A5,43,A5
1Ø1Ø DATA C3,A8,A5,C3,BB,A5,C3,D1,A5,C3,E6,A5,C3,FB,A5,C3
1Ø2Ø DATA FF,A5,C3,Ø8,A6,C3,11,A6,C3,2C,A6,C3,1C,A6,C3,3C
1Ø3Ø DATA A6,C3,48,A6,C3,58,A6,C3,86,A6,C3,97,A6,C3,9B,A6
1Ø4Ø DATA C3,BA,A6,58,4F,D2,4D,45,52,47,C5,43,4F,5Ø,59,2E
1Ø8Ø DATA BØ,43,4F,5Ø,59,2E,B1,57,41,49,D4,52,45,5Ø,45,41
1Ø9Ø DATA 54,2E,4F,CE,52,45,5Ø,45,41,54,2E,4F,46,C6,43,4F
111Ø DATA 5Ø,59,43,48,41,D2,53,48,49,46,D4,43,41,5Ø,D3,46
112Ø DATA 4C,55,53,C8,53,57,49,54,43,C8,42,49,47,CB,44,41
113Ø DATA 54,C1,4D,4F,54,4F,52,2E,4F,CE,4D,4F,54,4F,52,2E
116Ø DATA 4F,46,C6,48,45,4C,DØ,ØØ,21,ØØ,CØ,7E,EE,FF,77,23
117Ø DATA 7C,FE,FF,2Ø,F6,7D,FE,FF,2Ø,F1,C9,21,ØØ,CØ,Ø1,ØØ
118Ø DATA 4Ø,ØA,AE,77,23,Ø3,7C,FE,FF,2Ø,F6,7D,FE,FF,2Ø,F1
119Ø DATA C9,21,ØØ,CØ,Ø1,ØØ,4Ø,ØA,77,23,Ø3,7C,FE,FF,2Ø,F7
12ØØ DATA 7D,FE,FF,2Ø,F2,C9,21,ØØ,CØ,Ø1,ØØ,4Ø,7E,Ø2,23,Ø3
124Ø DATA 7C,FE,FF,2Ø,F7,7D,FE,FF,2Ø,F2,C9,CD,18,BB,C9,DD
125Ø DATA 7E,ØØ,Ø6,FF,CD,39,BB,C9,DD,7E,ØØ,Ø6,ØØ,CD,39,BB
126Ø DATA C9,CD,6Ø,BB,DD,6E,ØØ,DD,66,Ø1,77,C9,CD,9F,A6,FE
127Ø DATA ØØ,CA,AE,A6,26,FF,2E,ØØ,CD,3A,BD,C9,CD,9F,A6,FE
128Ø DATA ØØ,CA,B4,A6,26,ØØ,2E,FF,CD,3A,BD,C9,CD,9F,A6,FE
132Ø DATA ØØ,CA,A6,A6,CD,3D,BD,C9,CD,9F,A6,FE,ØØ,C8,FE,Ø1
133Ø DATA C8,DD,7E,ØØ,CD,5B,BD,C9,3E,FF,32,A8,A8,3E,28,32
134Ø DATA 9Ø,A8,3E,DØ,32,95,A8,3E,Ø1,32,9D,A8,3E,3Ø,32,9F
135Ø DATA A8,3E,ØA,32,AØ,A8,3E,2Ø,32,A1,A8,3E,32,32,A2,A8
136Ø DATA 3E,E5,32,A3,A8,C9,21,9Ø,A8,36,ØØ,23,7C,FE,A8,28
14ØØ DATA F8,7D,FE,44,28,F3,C9,CD,6E,BC,C9,CD,71,BC,C9,ØE
141Ø DATA ØØ,CD,15,B9,7C,C9,CD,Ø9,BB,FE,ØØ,C8,18,F8,3E,FF
142Ø DATA 32,E7,B4,C9,3E,FF,32,E8,B4,C9,Ø1,ØØ,ØØ,21,43,A5
143Ø DATA 7E,FE,8Ø,D4,D1,A6,CD,5A,BB,23,Ø3,79,FE,65,2Ø,FØ
144Ø DATA C9,EE,8Ø,CD,5A,BB,3E,ØD,CD,5A,BB,3E,ØA,CD,5A,BB
148Ø DATA 3E,ØØ,C9,FØ47
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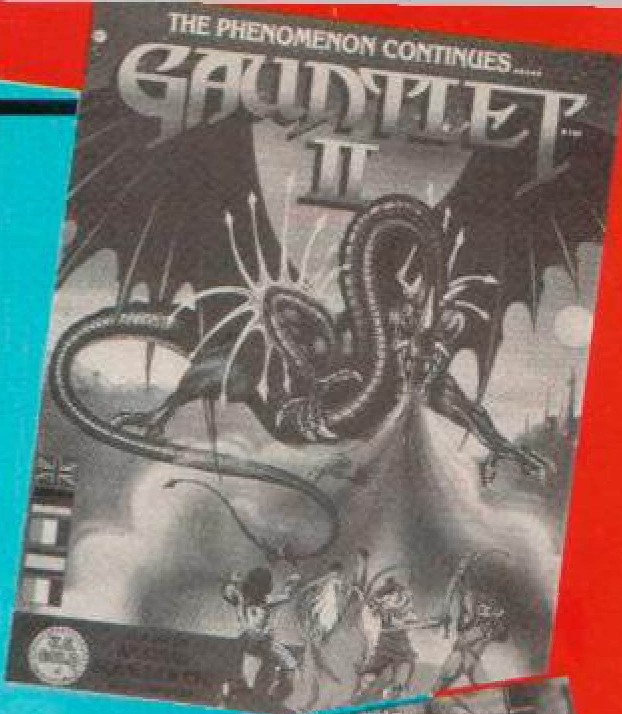
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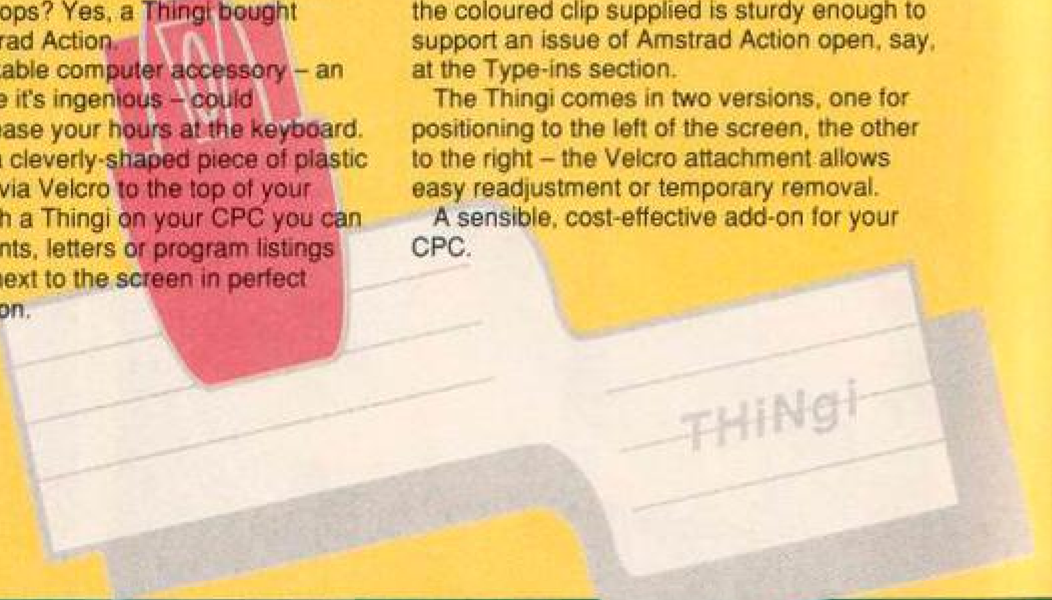
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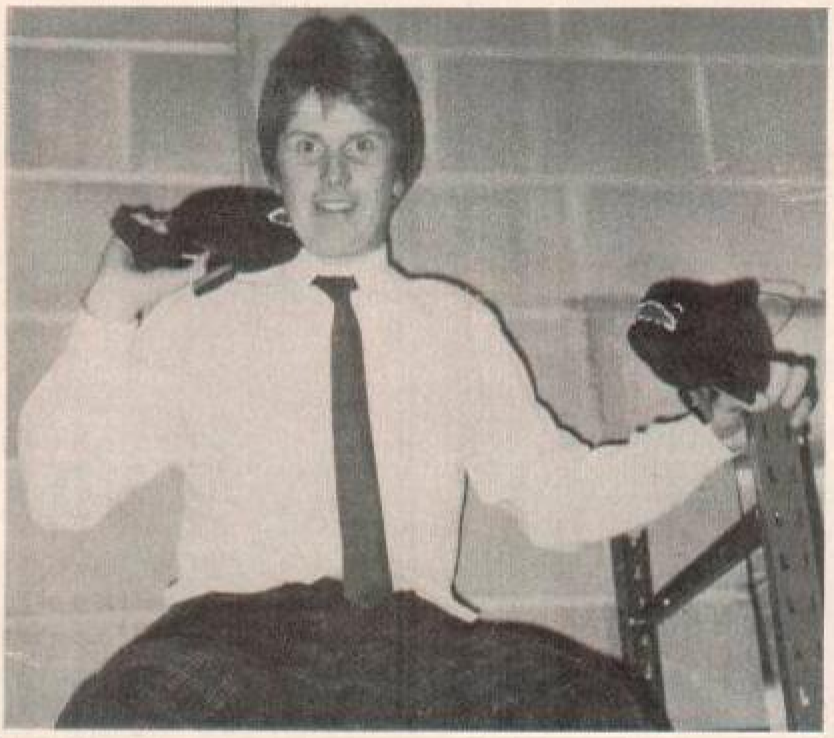
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REAR VIEW

A sideways look at the world of computing, plus Sugarman!



Piranha Bites Man – and lives!

You'll never guess in a month of Eastenders what prompted this ridiculous photo. The man on the rickety shelving, frantically trying to remember if he made out a will, is Roger Hulley – boss of Alternative Software. The reason he's being attacked by two cudlly, stuffed piranhas, if you ignore those violence provoking trousers that is, is because Alternative are re-releasing as budget games, old titles from, who else but, Piranha. Other companies who they are also re-releasing titles from are Audiogenic, Incentive and Bubble Bus. So why didn't they have a picture of him being flattened by a bus?

Royal Approval?

The extraordinary meeting of minds pictured here took place when the Prince of Wales toured the Midlands and was presented with an Amstrad portable for the charity Business in the Community, to which they have also donated several PC 1640's. So what did the two great men say to each other? Alas we shall never know. But here's what one prospective Sun reporter took a wild guess at.

Charles: Hello your Highness.

Alan: What, no bow?

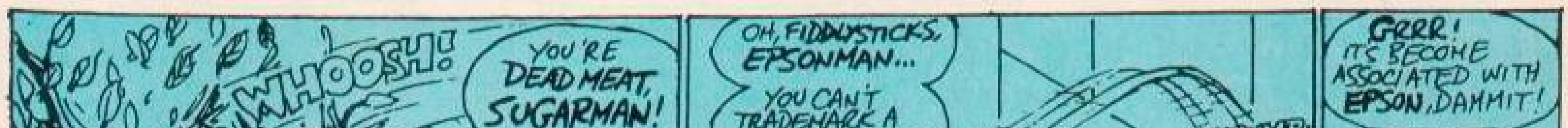
Charles: What's that thing on the table?

Alan: Haven't a clue, but it sure gets the money piling in.

Charles: Have you got any free software for my 664?

Alan rips clothes off, attacks Prince and exits stage right.







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